

### Message of head of Cardiovascular Research Centre



The Heart Failure Congress is one of the most established and comprehensive congresses in Iran, organized by the Cardiovascular Research Centre in Shahid Beheshti University of medical Sciences Since 2005.

The congress focuses on the specific conditions that cause Heart Failure and is The only annual international scientific Forum of its kind in Iran.

I am specially Grateful to Dr Sharifkashani and Dr Naghashzadeh for Organizing This unique congress.

#### Dr.M.H.Namazi

Professor of interventional cardiology and head of Cardiovascular Research Centre of Shahid Beheshti University of Medical Sciences



### Message of Director of Cardiology Department

We are honored to announce that with the efforts of the professors of the Cardiology Department of Shahid Beheshti University of Medical Sciences, professors from other universities and foreign guests, we welcome professors, assistants, researchers and dear guests to the 7th International Iranian Heart Failure Summit.

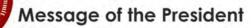
This event aims to discuss and exchange opinions and synergize professors and cardiologists and other related specialties in order to improve the scientific level and knowledge of specialized and subspecialized cardiovascular assistants, assistants interested in other fields, general doctors and nurses, and also provides information about The latest developments in the field of prevention, diagnosis and treatment of heart failure worldwide.

Another goal of this congress is to introduce the progress and achievements of the country's scientific community in specialized fields of medicine, especially cardiology, to the specialists of other countries and to establish more scientific research connections between the scientific associations of Iran and other parts of the world.

At the end, I would like to express my gratitude to all the professors and colleagues, who helped us in organizing the Summit and hopefully we will be able to provide those who are interested with the most up-to-date data and information and take a step towards reducing the pain of patients.

#### Dr. Mohammad Esmail Gheidari

Director of Cardiology Department of Shahid Beheshti University of Medical Sciences





Since the 6th IHFsummit we have witnessed an extraordinary period worldwide changing the perception of nearly all aspects of our lives, personal and professional.

Although the COVID experience was nothing less than an international catastrophe, the scientific and social lessons learned can shape our future plans to prevent such happenings. We have also faced great strides in the field of medicine including heart failure. The new field of data management and governance has introduced us to a completely new frontier in patient management and scientific research leading to new concepts such as Artificial Intelligence.

I am certain that with the help of our scientific committee and distinguished lecturers during the 7th IHFsummit we shall be able to cover as many topics in this new area as possible and I look forward to meeting you all in Tehran 9-11 August.

Babak Sharif-Kashani M.D.

# **Organising Committee**



#### Babak Sharif Kashani

President



Farah Naghashzadeh Scientific Secretary



Vahid Eslami Executive Secretary





Arash Ahmadi Executive Manager



## Scientific Committee



Babak Sharif Kashani President



Farah Naghashzadeh Scientific Secretary



Leila Salimi Nejad Head of Nursing Department



Elham Vahedi Scientific Secretariate Officer



Shadi Shafaghi Research Affairs Officer

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Elham Vahedi Public Relations1



Maryam Hosseini Graphic Designer



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th International Iranian Heart Failure Summit

### Medical scientific committee

- Babak Sharif Kashani
- Farah Naghashzadeh
- Vahid Eslami

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Summit

- Isa Khaheshi
- Mohammad Hassan Namazi
- Ferydon Noohi
- Habibollah Saadat
- Hosein Vakili
- Mohammad Reza Beyranvand
- Mohammad Khani
- Mohammad Esmaeil Gheidari
- Mehrdad Jafari Fesharaki
- Mohammad Ali Akbarzadeh
- Saeed Alipour Parsa
- Morteza Safi
- Shadi Shafaghi
- Afsaneh Amiri
- Azin Alizadeh Asl
- Toktam Alirezaie
- Ali Dabbagh
- Mojgan Tansaz
- Farzaneh Dastan
- Nasim Naderi
- Sepideh Taghavi
- Arezo Mohammadi far
- Zahra Ansari aval

- Mohsen Mirhoseini
- Alireza Jahangirifard
- Seifolla Abdi
- Mohammad Ali haji Zeinali
- Maryam Taherkhani
- Mersedeh Karvandi
- Abdolhamid Bagheri
- Behzad Haji Moradi
- Mohammad Asadpour Piranfar
- Maryam Mehrpoya
- Majid Valizadeh
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- Roya Sattarzadeh
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- Roxana Sadeghi
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- Fatemeh Omidi
- Emadoddin Hoseijani
- Sepideh Jafari
- Hosein Navid
- Zargham Hossein Ahmadi
- Saeed Hoseini
- Manochehr Hekmat
- Ramin Baghaee
- Mahmood Beheshti Monfared
- Masoud Ghasemi

- Masoud Eslami
- Saeed Oreie
- Zahra Emkanjo
- Farveh Vakilian
- Ebrahim Mahmoodi
- Mohammad Reza Taban
- Elham Vahedi

# Nursing scientific committee

- Masoumeh Zakeri Moghadam
- Hamid Peiravi
- Mohammadtaghi Safdari
- Fatemeh Monjazebi
- Leila Salimi Nejad
- Azam Rahimzadeh
- Fatemeh Bahram Beigi
- Shamsi Nasiri Raeini



### **Medical speakers**

- Babak Sharif Kashani
- Farah Naghashzadeh
- Vahid Eslami

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Summit

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- mohammad Hasan Namazi
- Zoghi Mehdi (Turkey)
- Mohammad Reza Sohrabi
- Isa Khaheshi
- Majid Valizadeh
- Saeed Kalbasi
- Zeinab Nazari
- Sokolovic Sekib (Bosnia)
- Naghmeh Ziaei
- Gavazzi Antonello ( Italy)
- Ahmad Amin
- Somayeh Mohamadi
- Tahere Sadeghi
- Somaye Jalali
- Kucukoglu Mehmet Serdar. (Turkey)
- Toktam Alirezaee
- Sima Noorali
- Maryam Taherkhani
- Maryam Mehrpoya
- Seifolla Abdi
- Saraf Mohammad (USA)
- Hossein Ardehali
- Ekhlas Torfi
- AliReza Jahangiri
- Hale Ashraf
- Arezo Mohamadifar
- Reza Mollazadeh
- Marzieh Mirtajaddini
- Razieh Omidvar
- Lotfi Shahram (Germany)
- Mehdi Daliri
- Morteza Safi
- Ata Firoozi

- Afshin Ghofranha
- Ghazale Heydary Rad
- Majid Asghari
- Elham Parsa
- Sajad Sadeghi
- Roja Rahimi
- Parvaneh Kafshbani
- Sepideh Jafari
- Sepideh Taghavi
- Marjan Hajahmadi
- Afsaneh Amiri
- Farzaneh Dastan
- Keyhan Mohammadi
- Neyayesh Mohebi
- Azam Kiani
- Shadi Shafaghi
- Fariba Ghorbani
- Fatemeh Hoseini Baharanchi
- Mahdieh Khabazian
- Maryam Ranjbar
- Elahe Zare
- Narges Razavi
- Mohammad Khani
- Roya Sattarzadeh
- Maryam Shojaeifard
- Kamran Mohammadi
- Mohammad Reza Eftekhari
- Fariba Bayat
- Mehrdad Jafari Fesharaki
- Mohammad Sahebjam
- Saeed Hoseini
- Ebrahim Mahmodi
- Davood Shafiei
- Tolouian Ramin (USA)

- Maryam Chenaghlo
- Nasim Naderi
- Mehdi Pishgahi
- Zahra Emkanjoo
- Behzad Hajimoradi
- Mohamad Reza Taban
- Hoda Raffiei
- Mohsen Mirhosseini
- Zahra Ansari Aval
- Alireza Bakhshandeh
- Farveh Vakilian
- Sara Amini
- Kucukoglu Mehmet Serdar (Turkey)
- Tufekcioglu O. (Turkey)
- Azin Alizadeh
- Elgar Enamzadeh
- Mina Mohseni
- Masood Sayad
- Alia Bahramnejad
- Zahra Teimori
- Mohammad Ali Akbarzadeh
- Ali Khalili
- Hossein Moshtaghioun
- Kianosh Saberi
- Kamal Fani
- Mohammad Saeed Ghiasi
- Robab Azizi
- Afarin Zamani
- Fatemeh Bayat
  Zia Totonchi

Manijeh Fallah

Samira Arami

Zahra Alborzi

Somayeh Abaspour

### **Nursing speakers**

- Zahra Dolat Abadi
- Masoumeh Zakeri Moghadam
- Leila Sayadi
- Maryam Esmaeeli
- Farzaneh Dastan
- Mehdi Bakhshi
- Yaser Saeed
- Azam Rahimzadeh
- Arezo Mohamadifar
- Nastatan Asrpooran
- Mahboobeh Shomali
- Alireza Mohsenipoor
- Zargham Hosein Ahmadi
- Mohammad Taghi Moghadam Nia
- Sahar Khosh Kesht
- Razieh Masoomi
- Mehdi Nabi
- Ali Moslem
- Salman Berasteh
- Leila Khanali

- Sima Zohari
- Sedigheh Sedigh
- Parisa Adimi
- Mojgan Palizdar
- Siavash Mehdigholizadeh
- Leila Salimi Nejad
- Fatemeh Monjazebi
- Fatemeh Bahram Beigi
- Payam Abbasi
- Khatere Seilani
- Homayon Banaderakhshan
- Fatemeh Bahramnejad
- Soheila Sadeghi
- Azadeh Moradkhani
- Masoumeh Rezaee
- Fatemeh Ghasem Boroujerdi
- Ali Moradi
- Yadollah Mafhoomi
- Azam Shirin Abadi Farahani
- Hamid Peiravi

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# Program At a Glance

		Wednesday, (	09 August 2023			
	Allame Tabatabaei	Kharazmi	Hakim Khayyam		Parvin Etesami	Shahriar
07:30 - 08:00	Opening Ceremony		1			
00:00 - 09:00	Epidemiology of Heart Failure					
9:00 - 10:30	Risk Factors Management			Heart	Failure in Iran and worldwide	
0:30 - 11:00	Break	Break	Break		Break	
1:00 - 13:00	Acute Heart Failure	Traditional Iranian Medicine		Update	s on treatment of heart failure	
3:00 - 14:00	Lunch	Lunch	Lunch		Lunch	
14:00 - 16:00	Myocarditis	Pharmacist point of view in heart failure treatment		Speci	ial situations in heart failure	
16:30 - 18:30	Novel approach to qualified research strategies		An overview of top new trials in heart failure	Nursing after hear	t transplant in patients with hear	rt failure
7:30 - 09:00	Pregnancy in various heart diseases					
9:00 - 10:30	HEPEF	How to apply invasive and interventional approaches in treatment of HF patients			Angiography Panel	
	HFPEF Break		Bresk		Angiography Panel Break	
0:30 - 11:00		treatment of HF patients				Heart Tailore & HTN intersection
9:00 - 10:30 0:30 - 11:00 1:00 - 13:00 3:00 - 14:00	Break Utility of advanced Echocardiography in heart	treatment of HF patients Break			Break Monitoring patients with	
0:30 - 11:00 1:00 - 13:00	Break Utility of advanced Echocardiography in heart failure	treatment of HF patients Break Shock	Break		Break Monitoring patients with heart failure	
0:30 - 11:00 1:00 - 13:00 3:00 - 14:00	Break Utility of advanced Echocardiography in heart failure Lunch Phyotal role of echocardiography in heart failure and ischemia	triatment of HF patients Break Shord: Lunch	Eneak Lunch Initiation of ARHI in new HF (out patient & Comprehensive case based discu		Break Monitoring patients with heart failure Lunch Shock and heart failure	Heart failure & HTN Intersection
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0:30 - 11:00 1:00 - 13:00 3:00 - 14:00 4:00 - 16:00 5:30 - 18:30	Break Utility of advanced Echocardiography in heart failure Lunch Pivotal role of echocardiography in heart failure and ischemia Chronic heart failure and co-morbidities	treatment of HF patients	Ereak Lunch Initiation of ARM in new Hi <sup>r</sup> (out patient & Comprehensive case based discu	ssion	Break Monitoring patients with heart failure Lunch Shock and heart failure management Heart failure associated diseases	intersection
0:30 - 11:00 1:00 - 13:00 3:00 - 14:00 4:00 - 16:00	Break Utility of advanced Echocardiography in heart failure Lunch Pivotal role of echocardiography in heart failure and ischemia Chronic heart failure and co-morbidities Altame Tabatabael	treatment of HF patients   Break  Shock  Lunch  LVAD  Interesting cases in coronary and structural intervention  Friday, 11  Kharazmi  hmia	Ereak Lunch Initiation of ARM in new Hi <sup>r</sup> (out patient & Comprehensive case based discu	ssion Par	Break Monitoring patients with heart failure Lunch Shock and heart failure management Heart failure associated diseases	intersection

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Nursing care for a patient with heart failure on ECMO panel

Pailistive care in heart failure pane

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2023 7th International Iranian Heart Failure Summit

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11:00 - 13:00

13:00 - 14:00 14:00 - 16:00

16:30 - 18:30

Pulmonary hypertension

Specific cardiomyopath

Closing or

# Scientific Program

# Day 1

Opening Ceremony

Date	Time	Торіс	Speaker
9 August 2023	7:30-7:35	Holy Quran	
	7:35-7:40	National Anthem	
	7:40-7:50	Welcome by Congress Chairman	Sharif Kashani B. ( Iran)
	7:50-7:55	Welcome by Executive secretary	Eslami V. (Iran)
	7:55-8:00	Welcome by Head of Cardiovascular Research Center	Namazi MH. ( Iran)

Allameh Tabatabai Hall: Epidemiology of Heart Failure

Panel Members: Sharif Kashani B., Gheidari MA., Aghajani M., Noohi F., Piranfar M.

Moderator: Sharif Kashani B.

Date	Time	Topic	Speaker
9 August 2023	8:00-8:20	Epidemiology and world burden of heart failure	Zoghi M. (Turkey)
	8:20-8:40	Epidemiology and Iran burden of heart failure	Sharif Kashani B. (Iran)
	8:40-9:00	Importance of prevention, Point of no return	Sohrabi MR. (Iran)

Allameh Tabatabai Hall: Risk Factors Management Panel Members: Sharif Kashani B. Saadat H., Vakili H., Hoseinjani E., Beyranvand MR. Moderator: Hoseinjani E.

Date	Time	Topic	Speaker
9 August 2023	9:10-9:30	Hypertension and heart failure	Khaheshi I. (Iran)
	9:30-9:50	Obesity and impact on heart failure outcome	Valizadeh M. (Iran)
	9:50-10:10	Management of T2DM in heart failure	Kalbasi S. (Iran)
	10:10-10:30	Effect of exercise on cardiovascular system	Nazari Z. (Iran)
	10:30-10:50	Diagnosis and treatment of micro vascular dysfunction in heart failure	Sokolovic S. (Bosnia)
	10:30-11:00	Break	

Allameh Tabatabai Hall: Acute Heart Failure Panel Members: Jafari S., Taghavi S., Amiri A., Ranjbar M Moderator: Taghavi S.

Date	Time	Topic	Speaker
9 August 2023	11:00-11:20	Comprehensive management of acute heart failure: in hospital monitoring	Ziaei N. (Iran)
	11:20-11:40	Clonal hematopoiesis of indeterminate potential and heart failure: a new area of research	Gavazzi A. ( Italy)
	11:40-12:00	Management of volume overload in AHF	Raffiei H. (Iran)
	12:00-12:20	Inotropes , Which & When	Mohamadi S. ( Iran)
	12:20-12:40	Should ARNI be used in AHF	Sadeghi T. ( Iran)
	12:40-13:00	Q&A	ALC: Y
	13:00-14:00	Prayer & lunch	

#### Kharazmi Hall: Traditional Iranian Medicine

Panel Members: Khoda dost M., Gheidari MA., Tansaz M., Sadeghi S., Dastan F.

Moderator: Tansaz M.

Date	Time	Торіс	Speaker
9 August 2023	11:00-11:25	Management of hyperlipidemia	Heydary Rad GH. (Iran)
	11:25-11:50	Management of hyperglycemia	Firoozi R. (Iran)
	11:50-12:15	Obesity	Parsa E. (Iran)
	12:15-12:40	Hypertension	Sadeghi S. (Iran)
	12:40-13:00	Role of Herbal drugs in atherosclerosis	Rahimi R. (Iran)
	13:00-14:00	Prayer & lunch	

#### Allameh Tabatabai Hall: Myocarditis

Panel Members: Naghashzdeh F., Jafari S., Mohamadifar A., Parsa mahjob M.

Moderator: Mohamadifar A.

Date	Time	Topic	Speaker
9 August 2023	14:00-14:20	Etiologies and clinical presentation of Myocarditis	Kafshbani P. (Iran)
	14:20-14:40	Challenges in diagnosis and How to approach?	Jafari S. (Iran)
	14:40-15:00	Specific treatment of myocarditis in real practice	Taghavi S. (Iran)
	15:00-15:20	What is recovered heart failure, what should we know and do?	Hajahmadi M.( Iran)
	15:20-15:40	Case presentation	Amiri A. (Iran)
	15:40-16:00	Q&A	
	16:00-16:30	Break	

Kharazmi Hall: Pharmacist point of view in heart failure treatment **Panel Members:** Dastan F., Mohebi N.

Moderator: Dastan F.

Date	Time	Topic	Speaker
9 August 2023	14:00-14:20	SGLT21, pros/cons	Dastan F. (Iran)
	14:20-14:40	Digoxin ,Yes or No , When?	Mohebi N. (Iran)
	14:40-15:00	Emerging therapies in acute heart failure	Mohammadi K. (Iran)
	15:00-15:20	Heart failure Pharmacotherapy pearls	Mohammadi K. (Iran)
	15:20-16:00	Q&A	
	16:00-16:30	Break	

Hakim Khayyam Hall: An overview of top new trials in heart failure

Panel Members: Naghashzadeh F., Sadeghi R., Hajahmadi M.

Moderator: Sadeghi R.

Date	Time	Topic	Speaker
9 August 2023	16:30-17:00	Top new trials in heart failure	Kiani A. ( Iran)
	17:00-17:30	Optimizing foundational therapies in patients with HFREF.( Translation these trials in to clinical care.	Naghashzadeh F. (Iran)

Allameh Tabatabai Hall: Novel approach to qualified research strategies

Panel Members: Shafaghi Sh., Ghorbani F., Hoseini F.

Moderator: Shafaghi Sh

Date	Time	Topic	Speaker
9 August 2023	16:30-17:00	New methods for article writing	Shafaghi Sh. (Iran)
	17:00-17:30	How to write article result in IMRAD format	Ghorbani F. (Iran)
	17:30-18:00	Use of AI in data analysis	Hoseini F. (Iran)
	18:00-18:30	Q&A	All and

# Scientific Program

# Day2

Allameh Tabatabai Hall: Pregnancy in various heart diseases

Panel Members: Raffiei H., Ziayei N., Vakilian F., Naseri Z.

Moderator: Omidi F.

Date	Time	Торіс	Speaker
10 August 2023	7:30-7:50	Pregnancy in heart failure	Kiani A. (Iran)
	7:50-8:10	Pregnancy in heart transplant patients. Is it safe?	Jalali S. ( Iran)
	8:10-8:30	Contraceptive and pregnancy in pulmonary hypertension	Kucukoglu M. (Turkey)
	8:30-8:50	HTN in pregnant women	Alirezaee T.( Iran)
	8:50-9:00	Case presentation	Noorali S.( Iran)

Allameh Tabatabai Hall: HFPEF

Panel Members: Khoshavi M., Shafiei D., Omidvar R.

Moderator: Taban MR.

Date	Time	Topic	Speaker
10 August 2023	9:10-9:30	HfPEF a disease with different phenotype & pathophysiology	Khabazian M. (Iran)
	9:30-9:50	Challenges in diagnosis of HFPEF	Ranjbar M. (Iran)
	9:50-10:10	HFPEF, a disease of co-morbidities	Zare E. (Iran)
	10:10-10:30	Treatment (Not easy as it seems)	Razavi N. (Iran)
	10:30-11:00	Break	

Kharazmi Hall: How to apply invasive and interventional approaches in treatment of HF patients Panel Members: Namazi MH., Abdi S., Haji Zeinali MA., Gheidari MA., Hekmat M., Khani M. Moderator: Eslami V.

Date	Time	Topic	Speaker
10 August 2023	9:10-9:30	Revascularization in advanced HF	Taherkhani M.(Iran)
	9:30-9:50	How to approach Mitral regurgitation in HF	Mehrpoya M. (Iran)
	9:50-10:10	Treatment of severe AS in heart failure	Abdi S.( Iran)
	10:10-10:30	Invasive approach to Tricuspid regurgitation in HF	Saraf M. (USA)
	10:30-11:00	Break	

Allameh Tabatabai Hall: Utility of advanced Echocardiography in heart failure Panel Members: Khani M., Karvandi M., Sattarzadeh R., Zoroufian A., Moshkani Farahani M. Moderator: Khani M.

Date	Time	Topic	Speaker
10 August 2023	11:00-11:20	Role of advanced echocardiography in assessment of RV function in current clinical practice	Khani M. ( Iran)
	11:20-11:40	Assessment of pulmonary hypertension. Is echocardiography enough in new era?	Sattarzadeh R. ( Iran)
	11:40-12:00	Strain echocardiography in heart failure, the evolutionary development of technology	Shojaeifard M. ( Iran)
	12:00-12:20	Approach to patients in Shock, Key role of echocardiography	Mohammadi K. ( Iran
	12:20-12:40	LA strain, A mathematical fantasy or a clinical guide?	Eftekhari M. ( Iran)
	12:40-13:00	Q & A	
	13:00-14:00	Prayer & lunch	

#### Kharazmi Hall: Shock

Panel Members: khabazian M., Navid H., Hajahmadi M., Soltani MH.

Moderator: Hajahmadi M.

Date	Time	Topic	Speaker
10 August 2023	11:00-11:20	Non cardiogenic shock (Type, Diagnosis & Treatment)	Ardehali H. ( Iran)
	11:20-11:40	Approach and management of cardiogenic shock	Torfi E. ( Iran)
	11:40-12:00	Role of assist devices in management of shock	Jahangiri AR. (Iran)
	12:00-12:20	Cardiogenic shock secondary to RV failure	Ashraf H. ( Iran)
	12:20-13:00	Q & A	
	13:00-14:00	Break	

Shahriar Hall: Heart failure & HTN intersection

Panel Members: Mollazadeh.R

Date	Time	Topic	Speaker
10 August 2023	11:00-13:00	Heart failure & HTN intersection	Mohamadifar A., Amin A., Mollazadeh R.
	13:00-14:00	Praye	r & lunch

Allameh Tabatabai Hall: Pivotal role of echocardiography in heart failure and ischemia

10

Panel Members: Behzadnia N., Samiee N., Toofan Tabrizi M., Alizadehasl A., Bagheri A., Hekmat M.

Moderator: Behzadnia N.

te	Time	Topic	Speaker
0 August 2023	14:00-14:20	Myocardial viability, Dilemma in treatment strategy	Bayat F. ( Iran)
	14:20-14:40	Functional ischemic mitral regurgitation, Definition and guidelines	Jafari Fesharaki M. ( Iran)
	14:40-15:00	Mitraclip in functional MR, Step by step tips and tricks	Sahebjam .M ( Iran)
	15:00-15:20	Surgical aspects in secondary MR, MVR or MV repair	Hoseini S. (Iran)
	15:20-16:00	Q & A	
	16:00-16:30	Break	

Kharazmi Hall: LVAD Panel Members: Naderi N., Jahangiri fard AR., Daliri M., Taghavi S. Moderator: Naderi N.

Date	Time	Topic	Speaker
10 August 2023	14:00-14:20	Who should be listed and when is MCS a valid alternative	Mirtajaddin M. ( Iran)
	14:20-14:40	Complication and outcome of LVAD	Omidvar R. ( Iran)
	14:40-15:00	ECMO in stage D heart failure	Ahmadi ZH.(Iran)
	15:00-15:20	Update in cardiac assist devices	Daliri M. (Iran)
	15:20-16:00	Q&A	
	16:00-16:30	Break	

Hakim Khayyam Hall: Initiation of ARNI in new HF (out patient &in patient),

A Comprehensive case based discussion

Moderator: Naghashzadeh F.



Allameh Tabatabai Hall: Chronic heart failure and co-morbidities Panel Members: Torfi E., Navid H., Mohamadi S., Amini S.

Moderator: Mohamadi S.

Date	Time	Topic	Speaker
10 August 2023	16:30-16:50	Fragility and fatigue	Shafiei D. (Iran)
	16:50-17:10	Daily water consumption in HF, How much is too much ?	Tolouian R. (USA)
	17:10-17:30	Two decades of research in Iron deficiency and heart failure	Chenaghlo M. ( Iran)
	17:30-17:50	How to deal with end of life care issues in HF	Naderi N. (Iran)
	17:50-18:10	Optimal management of ischemia in advanced HF	Pishgahi M.( Iran)
	18:10-18:30	Q & A	

Kharazmi Hall: Interesting cases in coronary and structural intervention Panel Members: Safi M., Baghaei R., Alipour Parsa S., Ghasemi M., Shabestari M., Bayat F., Firoozi A.

Moderator: Alipour Parsa S.

Date	Time	Topic	Speaker
10 August 2023	16:30-16:50	Mitral Clip	Safi M. (Iran)
	16:50-17:10	Advanced cases in coronary and structural intervention	Namazi MH. ( Iran)
	17:10-17:30	Intervention in structural heart diseases	Firoozi A. (Iran)
	17:30-17:50	Angioplasty in case of cardiogenic shock	Ghofranha A.( Iran)
	17:50-18:10	Acute coronary occlusion after TAVI	Lotfi Sh. (Germany)
	18:10-18:30	Advanced interventional cases	Haji zeinail MA.(Iran

# Day 3

Allameh Tabatabai Hall: Heart failure and arrhythmia Panel Members: Mollazadeh R., Eslami M., Orei S., Soltani MH. Moderator: Akbarzadeh MA.

Date	Time	Topic	Speaker
11 August 2023	8:00-8:20	Approach to AF in HF	Emkanjoo Z. (Iran)
	8:20-8:40	CMP and arrhythmia	Hajimoradi B. (Iran)
	8:40-9:00	When to upgrade cardiac device	Teimori Z. (Iran)
	9:00-9:20	How to approach patients with ICD shock	Akbarzadeh MA. (Iran)
	9:20-9:30	Q & A	

Allameh Tabatabai Hall: Overview of recent updates in management of heart failure

Panel Members: Razavi N., Zare E., Arami S., Ghanavati R.

Moderator: Razavi N.

Date	Time	Topic	Speaker
11 August 2023	9:30-10:00	4 Pillars of HF treatment	Taban MR. (Iran)
	10:00-10:30	Role of SGLT2I in HF regardless of EF	Raffiei H. (Iran)
	10:30-11:00	Break	

Kharazmi Hall: Heart Transplantation

Panel Members: Hosseini S., Salehi M., Naderi N., Ahmadi ZH.

Moderator: Mirtajaddini M.

Date	Time	Topic	Speaker
11 August 2023	9:00-9:20	Heart transplantation , still evolving	Mirhosseini M. (Iran)
	9:20-9:40	Myocardial protection in heart transplantation	Ansari Aval Z. (Iran)
	9:40-10:00	Improvement in post heart transplant care for better long term outcome	Mohamadi far A. (Iran)
	10:00-10:20	Impact of various factors on heart transplant outcome	Bakhshandeh AR. (Iran)
	10:20-10:30	Q&A	
	10:30-11:00	Break	

#### Hakim Khayyam Hall: Anesthesia & heart failure

Panel Members: Ferasat kish R., Jalali Farahani AR., Masomi GR., Dabbagh A.

Moderator: Dabbagh A.

Date	Time	Topic	Speaker
11 August 2023	9:00-9:15	Anesthesia and heart failure: a pathophysiologic approach to the Anesthesiologist	Khalili A. (Iran)
	9:15-9:30	Anesthesia and heart failure: a pharmacologic approach to the Anesthesiologist	Moshtaghioun H. (Iran)
	9:30-9:45	Heart Failure in Patients Undergoing Major Non-cardiac Surgery	Saberi K. (Iran)
	9:45-10:00	Heart failure in Anesthesia for Congenital Heart Diseases	Fani K.(Iran)
	10:00-10:15	Anesthesia in patients with Heart failure with a preserved ejection fraction	Ghiasi MS.(Iran)
	10:15-10:30	Anesthetic management of heart failure in the pregnant patient	Azizi R.(Iran)
	10:30-11:00	Break	
	11:00-11:15	Anesthesia and right ventricular failure	Zamani A. (Iran)
	11:15-11:30	Cardiovascular Monitoring in the Management of the heart failure device	Jahangirifard AR. (Iran)
	11:30-11:45	Heart failure in Daycare and Outpatient Anesthesia	Bayat F. (Iran)
	11:45-12:00	The Role of Anesthesiologists in the Management of New Heart failure treatment approaches	Totonchi Z. (Iran)

Allameh Tabatabai Hall: Pulmonary hypertension

Panel Members: Malek mohammad M., Chenaghlo M., Mohamadifar A.

Moderator: Naghashzadeh F.

ate	Time	Topic	Speaker
11 August 2023	11:00-11:20	What is new in pulmonary hypertension guideline 2023?	Vakilian F. (Iran)
	11:20-11:40	Diagnostic algorithm of adult PH cases	Amini S. (Iran)
	11:40-12:00	Congenital heart diseases with high pulmonary pressure	Kucukoglu M. (Turkey)
	12:00-12:20	Management and Handling of non-cardiac problems in PH patients	Sharif Kashani B. (Iran)
	12:20-12:40	Echocardiography in pulmonary hypertension	Tufekcioglu O. (Turkey)
	12:40-13:00	Q & A	
	13:00-14:00	Prayer& lunch	



Summit

Kharazmi Hall: Cardio-oncology

Panel Members: Roudini K., Mohebbi B., Ranjbar H., Biglari M., Afsari Y.

Moderator: Alizadeh A.

Date	Time	Topic	Speaker
11 August 2023	11:00-11:20	Hematopoietic stem cell transplantation and cardiovascular considerations	Alizadeh A. (Iran)
	11:20-11:40	Cancer-associated thrombosis and embolism	Enamzadeh E. (Iran)
	11:40-12:00	Pericardial disease in malignancy	Mohseni M. (Iran)
	12:00-12:20	Cardio toxicity of common drugs used in chemotherapy	Sayad M. (Iran)
	12:20-12:40	Cancer survivorship: adverse outcomes and long term cardiovascular considerations	Bahramnejad A. (Iran)
	12:40-13:00	Q&A	
	13:00-14:00	Praver& lunch	

Allameh Tabatabai Hall: Specific cardiomyopathy

Panel Members: Ashraf H., Sadeghi T., Nazari Z., Mahmoodi E.

Modarator: Nazari Z.

Date	Time	Topic	Speaker
11 August 2023	14:00-14:30	Novelties in cardiac amyloidosis	Abaspour S. (Iran)
	14:30-15:00	Athlete's heart	Amiri A. (Iran)
	15:00-15:30	Takutsubo syndrome , pathophysiology to clinic	Arami S. (Iran)
	15:30-16:00	Updates in hypertrophic cardiomyopathy	Fallah M. (Iran)
	16:00-16:30	Cardiomyopathy induced by performance enhancement drugs	Alborzi Z. (Iran)

Allameh Tabatabai Hall: Closing ceremony

Date	Time	Topic	Speakers
11 August 2023	16:50-16:55	Summit summary	Sharif Kashani B. (Iran)
	16:55-17:00	Summit achievements	Naghashzadeh F. (Iran)
	17:00-17:05	Closing ceremony	Eslami V. (Iran)

# **Nursing Program**

### Day 1

Parvin Etesami Hall: Heart Failure in Iran and worldwide

Panel members: Zakerimoghadam M., Esmaeili M., Sayadi L., Abasi Dolat Abadi Z., Cheraghi A.

Moderator: Zakerimoghadam M.

Date	Hour	Title	Speaker
9 August 2023	8:30-8:50	Epidemiology and types of heart failure	Dolat Abadi Z.(Iran)
	8:50-9:10	Etiology of heart failure	Zakerimoghadam M.(Iran)
	9:10-9:30	Heart failure diagnosis methods(signs, symptoms and biomarkers)	Sayadi L.(Iran)
	9:30-9:50	Medical treatment in heart failure	Esmaeili M.(Iran)
	9:50-10:30	Q&A	
	10:30-11:00	Break	

Parvin Etesami Hall: Updates on treatment of heart failure

Panel members: Dastan F., Rashid Farokhi F., Monjazebi F., Bakhshi M.

Moderator: Bakhshi M.

Date	Hour	Title	Speaker	
9 August 2023	11:00-11:20	Medical treatment in HF: (Artrestan, Entresto, NOACs, Gloripa)	Dastan F. (Iran)	
	11:20-11:40	-VAD Non-pharmacological treatment of HF: IVAC LVAD-RVAD	Bakhshi M. (Iran)	
	11:40-12:00	Utility of Intra-Aortic Balloon Pump(IABP) for management of AHF	Saeed Y. (Iran)	
	12:00-12:20	Renal Replacement Therapy (RRT) in HF	Rahimzadeh A. (Iran)	
	12:20-13:00	Q&A		
	13:00-14:00	Prayer& Lunch	W. 7%	

Parvin Etesami Hall: Special situations in heart failure

Panel members: Adimi P., Seilani Kh., Monjazebi F., Zohari S., Peiravi H.

Moderator: Peiravi H.

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Date	Hour	Title Title	Speaker
9 August 2023	14:00-14:20	Obesity and heart failure	Zohari S. (Iran)
	14:20-14:40	Heart failure in pregnancy	Sedigh S. (Iran)
	14:40-15:00	Cardiopulmonary complications in sleep disorders	Adimi P. (Iran)
	15:00-15:20	Thromboembolism in heart failure	Palizdar M. (Iran)
	15:20-16:00	Q&A	
	16:00-16:30	Break	

Parvin Etesami Hall: Nursing care after heart transplantion in patients with heart failure Panel members: Ghorbani F., Monjazebi F., Bahram Beigi F., Esmaeili Sh., Salimi Nejad L. Moderator: Monjazebi F.

Date	Hour	Title	Speaker
9 August 2023	16:30-16:50	Nursing care in brain-dead patients and choosing the right candidate	Mehdigholizadeh S. (Iran)
	16:50-17:10	24 hours before heart transplantation care	Salimi Nejad L. (Iran)
	17:10-17:30	24 hours after heart transplantation care until discharge	Monjazebi F. (Iran)
	17:30-17:50	Identification and prevention of infection and rejection	Palizdar M. (Iran)
1	17:50-18:10	Lifestyle after heart transplantation	Bahram Beigi F. (Iran)
	18:10-18:30	Q&A	Bartin

th nternational Iranian Heart Failure Summit

# **Nursing Program**

### Day 2

Parvin Etesami Hall: Angiography Panel

Panel members: Mohamadifar A., Serati A., Ebadi A., Bakhshi M., Safdari T.

Moderator: Ebadi A.

Date	Hour	Title	Speaker	
10 August 2023	8:30-8:50	Angiography, angioplasty and angioembolization	Bakhshi M. (Iran)	
	8:50-9:10	CRT-D, ICD, right valve, Pacemaker	Mohamadifar A. (Iran)	
	9:10-9:30	TAVI	Abbasi P. (Iran)	
	9:30-9:50	Nursing care in interventional cardiology	Asrpooran N. (Iran)	
	9:50-10:30	Q&A		
	10:30-11:00	Break		

Parvin Etesami Hall: Hemodynamic Monitoring in patients with heart failure

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Panel members: Zakerimoghadam M., Monjazebi F., Nikpeima N., Seilani Kh., Banaderakhshan H.

Moderator: Zakerimoghadam M.

ate	Hour	Title	Speaker
0 August 2023	11:00-11:20	Non-invasive Hemodynamic Monitoring	Seilani Kh. (Iran)
	11:20-11:40	Invasive Hemodynamic Monitoring	Shomali M. (Iran)
	11:40-12:00	Inotropes in heart failure	Monjazebi F. (Iran)
	12:00-12:20	Heart rate monitoring in heart failure	Banaderakhshan H.(Iran)
	12:20-13:00	Q&A	
	13:00-14:00	Prayer& Lunch	ununum, 💫

Parvin Etesami Hall: Shock and heart failure management

Panel members: Bahramnejad F., Moghadamnia M., Mohsenipoor A., Saeed Y.

Moderator: Moghadamnia M.

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Date	Hour	Title	Speaker	
10 August 2023	14:00-14:20	Types of shock	Saeed Y. (Iran)	
	14:20-14:40	Management of hypovolemic and cardiogenic shock	Mohsenipoor A. (Iran)	
	14:40-15:00	Management of neurogenic and anaphylactic shock	Bahramnejad F.(Iran)	
	15:00-15:20	Drug therapy and nursing care in shock	Mohsenipoor A. (Iran)	
	15:20-16:00	Q&A		
	16:00-16:30	Break		

Parvin Etesami Hall: Heart failure associated diseases

Panel members: Serati A., Moradkhani A., Monjazebi F., Hosein Ahmadi Z., Moghadam Nia M., Safdari T. Moderator: Moghadam Nia M.

	Date	Hour	Title	Speaker
	10 August 2023	16:00-16:20	Valvular diseases and heart failure	Ahmadi ZH. (Iran)
addition		16:20-16:40	Metabolic diseases and heart failure	Sadeghi S. (Iran)
		16:40-17:00	ACS, AF and heart failure	Moghadam Nia M.(Iran)
		17:00-17:20	Respiratory diseases and heart failure	Moradkhani A. (Iran)
		17:20-17:40	Hypertension and heart failure	Khosh Kesht S. (Iran)
Manna Manna	h	17:40-18:00	Q&A	Billion

# **Nursing Program**

### Day 3

Parvin Etesami Hall: Patient education in heart failure

Panel members: Nikpeima N., Rahimzadeh A. Behzadpour A., Peiravi H.

Moderator: Rahimzadeh A.

Date	Hour	Title	Speaker
11 August 2023	8:30-8:50	Nutrition in patients with heart failure	Rezaee M. (Iran)
	8:50-9:10	Heart failure and sexual activity	Masoomi R. (Iran)
	9:10-9:30	Psychological rehabilitation in heart failure	Boroujerdi M. (Iran)
	9:30-9:50	Living with heart failure	Nabi M. (Iran)
	9:50-10:30	Q&A	
	10:30-11:00	Break	

Parvin Etesami Hall: Nursing care for a patient with heart failure on ECMO Panel

Panel members: Hosein Ahmadi Z., Jahangiri Fard A., Mafhoomi Y., Moslem A.,

Moderator: Jahangiri Fard A.

Date	Hour	Title	Speaker
11 August 2023	11:00-11:20	Application, installation and initiation of ECMO in heart failure	Moradi A. (Iran)
	11:20-11:40	Cannulation, anticoagulation and types of ECMO in heart failure	Moslem A. (Iran)
	11:40-12:00	Complications of ECMO in patients with heart failure	Mafhoomi Y.(Iran)
	12:00-12:20	Nursing care for a patient on ECMO	Moradi A. (Iran)
	12:20-13:00	Q&A	execution and the
	13:00-14:00	Prayer& Lunch	1999 - 7



Parvin Etesami Hall: Palliative care in heart failure

Panel members: Farahani A., Khanali L., Salimi Nejad L., Nikpeima N., Peiravi H., Berasteh S. Moderator: Peiravi H.

Date	Hour	Title	Speaker
11 August 2023	14:00-14:20	The need for palliative care in heart failure	Berasteh S. (Iran)
	14:20-14:40	Assessment and management of common symptoms	Farahani A. (Iran)
	14:40-15:00	Caring for heart failure patients towards the end of life	Khanali L. (Iran)
	15:00-15:20	Conclusion	Peiravi H. (Iran)
	15:20-16:00	Q&A	
	16:00-16:30	Break	

#### Parvin Etesami Hall: Paper presentation

Panel members: Salimi Nejad L., Monjazebi F., Bahram Beigi F.











انجمن نارسایی قلب ایران Iranian Society of Heart Failure



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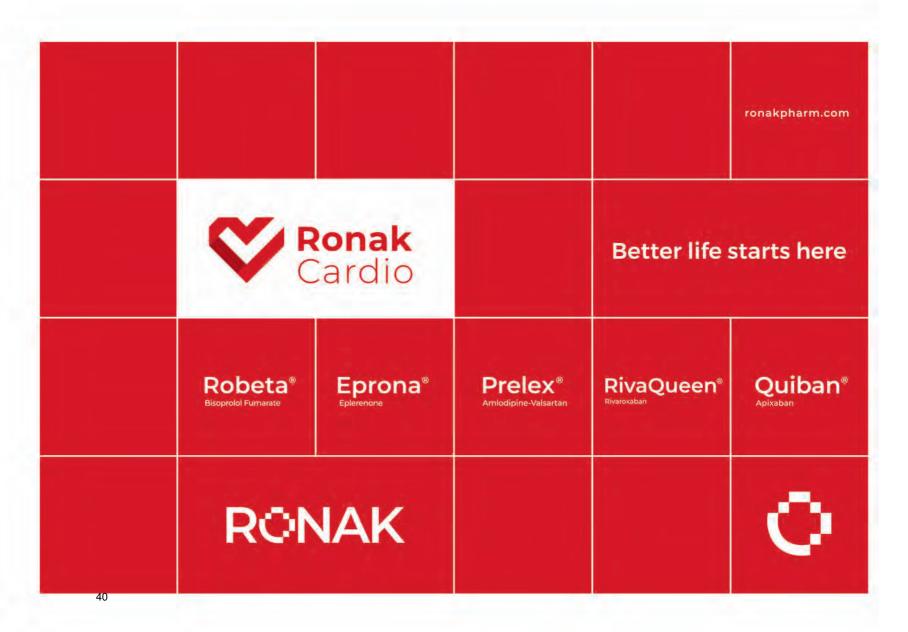
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#### Reference:

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### Joint 7th International Iranian Heart Failure Summit

Tehran 9-11 August 2023 Shahid Beheshti University Conference Center

# **Lectures in Brief**







#### كانولاسيون ضدانعقاد و انواع اكمو

Ali Moslem

اکمو در نارسایی قلب

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نارسایی حاد قلب

عوامل ایجاد کننده نارسایی حاد قلب در جدول زیر آمده است

Causes of Acute Heart Failure

Post Cardiotomy

Cardiopulmonary Bypass induced -

Preexisting myocardial dysfunction -

No Cardiotomy

Structurally normal heart with acute myocarditis -

Decompensated cardimyopathy -

Acute change in CHD patient with long-standing

myocardial Dysfunction

Sepsis-induced high output heart failure

Malignant dysrhythmia

.CHD: congenital heart disease

بدنبال جراحی قلب در بیماریهای مادرزایی اما یکی از عوامل عمده نارسایی حاد قلب در اطفال سندرم برون ده پایین قلب (LCOS) شامل LCOS مى باشد. عوامل ايجاد كننده

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یست گردش خون در حرارت پایین – ترمیمهای پیچیده و دستکاری قلب – واکنشهای شدید (DCHA)

سيستم التهابي –

محافظت نامناسب قلب در حین درمان –





\*اختلال عملكرد ميوكارد به علت رفع نقايص آناتوميكي

نشانههای بالینی سندرم برون ده پایین قلب به صورت کاهش پرفیوژن محیطی، اولیگوری، لاکتات اسیدوزیس، افزایش فشار پرشدگی بطن و کاهش اشباع اکسیژن خون مخلوط وریدی نمایان میشود، در این حالت از روشهای رایج یعنی اصلاح هایپوکسی و مشکلات احتقاني قلب و هم چنين درمان دارويي استفاده مي گردد كه معمولاً اين شيوه درماني مؤثر و نتيجه بخش نميباشد. استفاده از اكمو در این مرحله سبب کاهش فشار پرشدگی بطن، افزایش اشباع اکسیژن و حمایت از میوکارد شده که نتیجه آن کاهش نارسایی قلب و بهبود .سریعتر بیمار میگردد

در مورد بکارگیری اکمو در بیمارانی با نارسایی حاد قلب در سال ۲۰۰۴ نشان میدهد که ۳۸ درصد از بیماران اطفال و ELSO گزارش ۴۳. درصد از کودکان بعد از کارگذاری اکمو زنده از بیمارستان مرخص گردیدهاند

عوامل دیگری که در نارسایی حاد قلب مؤثر میباشند شامل: نارسایی در جدا شدن بیمار از پمپ، میوکاردیت، آریتمیهای مقاوم، ایست .قلبي و مسموميت با بتابلاكرها ميباشد

کاربرد در بزرگسالان -3

در بیمار بزرگسال را ارائه نمودند و د<mark>ر سال ECMO و</mark> همکاران گزارشی از اولین مورد استفاده موفقیت آمیز Hill در سال ۱۹۷۲ با مطالعه و کاربرد اکمو در ۹۰ بیمار اعلام نمود که آمار بقا با روش جدید بیشتر از روشهای متعارف می باشد ۱۹۸۱ Peirce





Shahid Beheshti University



#### Approach to acute myocarditis

Sepideh Jafari Naeini

Cardiovascular research center, Shahid Beheshti university of medical sciences, Tehran, Iran

sdnaeini@yahoo.com

As an inflammatory disorder of the myocardium, myocarditis has been introduced by different clinicopathological features. Initial presentation can be classified from asymptomatic or mild symptoms to fulminant myocarditis with cardiogenic shock, which can lead to fatal consequences.

Persistent chronic inflammation can be a cause of dilated cardiomyopathy. Although the role of genetic predisposition and environmental factors have been extensively studied, the exact mechanism of pathogenesis remains to be determined.

The prevalence is reported more frequently in young males and chest pain is the most common symptom.

Electrocardiogram may reveal different nonspecific findings. Noninvasive methods such as echocardiography with global longitudinal strain (GLS) assessment and cardiac magnetic resonance imaging (MRI) have been developed that have the potential to detect myocarditis at early stage and even in patients with preserved ejection fraction in the usual transthoracic echocardiography. Endomyocardial biopsy (EMB) is still the gold standard method for diagnosing myocarditis, but unavailability and potential risks lead to the use of noninvasive methods in the hemodinamically stable patients. Based on the current guidelines EMB is reserved for the clinical suspicion to specific diagnoses such as eosinophilic myocarditis, giant cell myocarditis or sarcoidosis .

Based on the endomyocardial findings in four categories have been defined, making the approach to these patients more evidence-based:

- inflammation- negative, virus- negative; 1)
- 2) inflammation-positive, virus-negative;
- 3) inflammation- negative, virus- positive;
- 4) inflammation-positive, virus-positive





#### مروری بر پایش همودینامیک با تمرکز بر رویکرد تهاجمی در بیماران مبتلا به نارسائی قلب

Mahboobe Shali

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مقدمه: مراقبت مبتنی بر اطلاعات همودینامیک، منجر به پیامدهای بهتری در زمینه بهبود بیماران، به ویژه بیماران بدحال می گردد. پایش همودینامیک طیف گسترده ای از پایش غیرتهاجمی تا تهاجمی را در بر می گیرد. هدف از این پژوهش، مروری بر مطالعات انجام شده در زمینه استفاده از روش های پایش همودینامیک در نارسائی قلب با تمرکز بر رویکرد تهاجمی می باشد.

روش کار: در این پژوهش مروری روایتی، با استفاده از کلما<mark>ت کلیدی نارسائی ق</mark>لب، مراقبت، پایش همودینامیک و روش های تهاجمی به MEDLINE SID ،PubMedزبان اهای فارسی و انگلیسی، بدون بازه زمانی از پایگاه داده اهای بین المللی و فارسی search، استفاده، Cochrane Library PsychINFO .ProQuest .Google scholar .Magiran .Scopus ، استفاده

شد. مقالاتی که همراستا با هدف تحقیق نبوده و یا به صورت گزارش مورد و نامه به سردبیر چاپ شده بودند، از مطالعه Tittle حذف شدند. از ۲۵۴۳ مقاله جستجو شده، ۱۴ مقاله مرتبط انتخاب شدند. جهت استخراج داده ها، تمام مقالات نهایی واردشده به فرآیند مطالعه توسط چک لیست استخراج شدند

یافته ها: بنابر یافته های حاصل از <mark>مقالات، ر</mark>وش ه<mark>ای پ</mark>ایش همودینامیک در <mark>بیمارا</mark>ن مبتل<mark>ا به نارسا</mark>ئی قلبی در دو طبقه تهاجمی و نیمه تهاجمی با تعاریف، رویه، مراقبت های لازم، مزیت ها و محدودیت ها دسته بندی شدند

نتیجه گیری: هر فناوری پایش همودینام<mark>یک، دارای م</mark>حدودیت و مزی<mark>ت</mark> های خاص خود است و آگاهی از این ویژگی ها، پیش شرط استفاده معقول از این فناوری ها محسوب می شود. <mark>هنگام انتخاب روش</mark> پایش مطلوب بر<mark>ای بیمار، باید</mark> ویژگی های روش شامل دقت،صحت، سهولت در اندازه گیری پارامترها و تداوم ارزیابی همودینام<mark>یک در نظر گرفته شود. در نهایت، عوامل</mark> سازمانی، هزینه، تجربه کاری افراد متخصص، ویژگی های بیمار و اعتماد به داده های سیستم پایش، نقش مهمی در انتخاب روش مناسب برای بیماران ایفا می کنند



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#### How to deal with end of life care issues in HF

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Advanced heart failure represents a challenging aspect of heart failure patients. Because of worsening clinical symptoms, high rates of readmission and mortality, advanced heart failure represents an unstable condition where standard management strategies are inadequate and additional interventions must be applied.

Heart transplantation and left ventricular assist devices can improve the prognosis, functional status, and quality of life in these patients. However, these kind of treatments may not be applied in some patients particularly those with the other organ malfunctions and comorbidities. Anyhow, heart failure is progressive and the patients and their caregivers need an integrative informational and palliative support throughout the heart failure trajectory particularly at the end of life stage. Dealing with the end of life care of patients with advanced heart failure is very important issue. Following recommendations could be applied for advanced heart failure patients who seems to be at their end of life stage:

1-Focus on improving or maintaining the quality of life of a patient and his/her care giver as well as possible until he/she dies

2-Frequent assessment of signs and symptoms (including dyspnea, swelling and pain) resulting from advanced heart failure and other comorbidities and focus on symptom relief.

3-Providing psychological support and spiritual care according to need

4-Advanced care planning by a multidisciplinary team, taking into account preferences for place of death and resuscitation





#### Sexual and reproductive health in cardiovascular disease: An overview of the impacts, outcomes, and management in clinical practice

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Introduction: Sexual and reproductive health is an essential aspect of overall well-being and quality of life in cardiovascular disease (CVD). This overview aims to explore the impact of CVD on an individual's sexual and reproductive health.

Methods: The overview was conducted on studies, clinical guidelines, and expert recommendations on sexual and reproductive health related to CVD. Key databases include PubMed, MEDLINE, and Embase. The selected articles were reviewed to extract pertinent information.

Results: Erectile dysfunction, decreased sexual desire, and sexual dissatisfaction are common in male patients with CVD, while changes in arousal, lubrication, and orgasmic function can occur in women. Some CVD, such as congenital heart defects, can affect fertility, while certain drugs used to treat CVD can have adverse effects on reproductive function. Optimal management strategies include periconceptional risk assessment, close monitoring during pregnancy, and multidisciplinary collaboration between cardiologists, obstetricians, and midwives to appropriate useful services. Also, comprehensive management of sexual dysfunction and reproductive outcomes in CVD requires a multidisciplinary approach that includes lifestyle interventions, counseling, pharmacological therapies, and possibly surgical intervention.

Conclusion: Healthcare providers should be proactive in discussing sexual function, fertility, contraception, and pregnancy planning with their patients to optimize overall care. A patient-centered approach that considers individual preferences and values is critical to managing sexual and reproductive health issues associated with cardiovascular disease.

Keywords: Cardiovascular Disease, Sexual Behavior, Sexual Health, Reproductive Health, Multidisciplinary Care





#### **Impact of Various Factors on Heart Transplant Outcome**

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Cardiac transplantation remains the gold standard treatment of patients with end-stage heart failure refractory to medical therapy. The decision to list for transplantation is most commonly achieved through multidisciplinary evaluation. As a consequence of severe donor shortage, adequate and optimal utilization of all suitable donor organs is mandatory to increase suitable graft availability. Therefore an organized and robust donor management is the foundation of a good outcome after heart transplantation.

Outcome after heart transplantation impacted from multiple and various factors, before procurement. during procurement, at the time of transfer, destination hospital factors including intraoperative factors, postoperative ICU care and long-term issues.

At the time of procurement, perfect anesthetist attendance, high quality surgical instruments,

myocardial protection and perfect technique of surgery all together impact on outcome of transplantation.

Co-ordination and good navigation with destination hospital, rapid transfer system and

Ex-vivo perfusion system (TransMedics) are factors that may impact the results after this procedure.

Also, Perfect myocardial protection, perfect technique of implantation and CPB wean strategy (Hot shot, A/G solution, RV training, MCS) are important factors that affect the end of the job. Furthermore, primary graft failure, infection, immunosuppression, acute kidney injury and postoperative bleeding are crucial factors to consider in outcome of heart transplantation.

Also in long-term, organized follow-up visits, early detection and intervention, continuous Education, tele-medicine program, Re-admission and collaboration with local health professionals affect the end-points after transplantation.



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#### Noninvasive monitoring in Heart Failure

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Introduction: Non-invasive monitoring in patients with heart failure (HF) may be useful in the early diagnosis of HF decompensation, allowing therapeutic optimization and avoiding re-hospitalization. Patients with HF should be equipped with home-monitoring devices and tools to facilitate biodata monitoring on a daily basis after hospital discharge or HF decompensation. There are several methods used for noninvasive monitoring which have been discussed in this article.

Methods: Terms related to noninvasive monitoring in HF were searched in different databases, 10 articles were reviewed, and the results were presented.

Results: Based on results, noninvasive monitoring, includes measurement of blood pressure, heart rate, peripheral oxygen saturation, body weight, total body water content, body temperature, daily walking steps, and three-lead electrocardiogram, which should be done on a daily basis and after any acute event like hospitalization or visit to the emergency department for worsening HF. In the future, HF care can be organized through remote monitoring strategies to guide, monitor, and treat chronic HF patients remotely from their homes as well. To attain this goal, there is a need to develop non-invasive remote monitoring tools, programs and medical devices that can be used by patients. Good data collection, data transmission, analysis, and presentation, will enable care team to predict and manage clinical decompensation in less complicated cases of HF.

Conclusion: Due to its simplicity, non-invasive nature, and relatively low costs, non-invasive remote monitoring is desirable and to be recommended in lower risk or less symptomatic chronic HF patients. As the volume of HF patients is very high, the impact of non-invasive remote monitoring strategies could have a large impact at not too high costs.

Key words: Non-invasive monitoring; telemonitoring; heart failure





#### **NON-CARDIOGENIC SHOCK in ICU**

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Shock is a common condition in critical care, affecting some patients in the intensive care It can be defined as a clinical syndrome of decreased blood flow to body unit (ICU). tissues resulting in cellular dysfunction and eventual organ failure.

The fundamental defect in shock is reduced perfusion of vital tissues. Once perfusion declines and oxygen delivery to cells is inadequate for aerobic metabolism, cells shift to anaerobic metabolism with increased production of carbon dioxide and elevated blood lactate levels. Cellular function declines, and if shock persists, irreversible cell damage and death occur.

Although shock begins as a cellular phenomenon, it is adynamic process which has been described as a final pathway to death.

Dysfunctional microcirculation is universal in shock and is often dissociated from global

hemodynamic parameters.

Irreversible stage of shock is refractory stage and there perhaps adequate tissue affliction and cell death have happened. Tissue and cellular detriment are so ponderous that the organism dies even if perfusion is renewed.

Diagnosis of shock is based on clinical, hemodynamic, and biochemical signs.

Resuscitation from states of shock is conventionally achieved by the restoration of systemic hemodynamic variables using fluid and vasoactive compounds with the aim of promoting tissue perfusion and oxygen transport to tissue.

Prompt identification is essential so that aggressive management can be started. Appropriate treatment is based on a good understanding of the underlying pathophysiological mechanisms. Treatment should include correction of the cause of shock and hemodynamic stabilization, primarily through fluid infusion

and administration of vasoactive agents. The patient's response can be monitored by means of

careful clinical evaluation and blood lactate measurements; microvascular evaluation may be feasible

in the future.





#### **Cardiogenic shock**

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CS is a low cardiac output (CO) state primarily due to cardiac dysfunction, leading to severe end-organ hypoperfusion associated with tissue hypoxia and increased lactate levels .

it frequently leads to multi-organ failure and death.

a third of CS were related to ACS.

In-hospital mortality varied between 30% and 60% with nearly half of in-hospital deaths occurring within the first 24 of presentation.

The patient should be hospitalized in an intensive care unit/cardiac care unit depending on hospital availability, and followed by physicians experienced in cardiovascular procedures.

Patients that recover and stabilize should be discharged home or directed to rehabilitation or palliative care centres, depending on the needs.



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#### **Digoxin Role in Heart Failure Management**

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Digoxin, derived from the foxglove plant, belongs to a class of medications called cardiac glycosides. It has been used for over 200 years in the treatment of heart failure and certain arrhythmias. Digoxin works by increasing the force of contraction of the heart muscle, thereby improving its pumping ability. Additionally, it helps regulate heart rate by slowing down electrical conduction through the atrioventricular (AV) node.

One significant benefit of digoxin in heart failure management is its ability to relieve symptoms and improve exercise tolerance. This can greatly enhance a patient's quality of life and functional capacity.

Moreover, digoxin has been shown to reduce hospitalizations related to heart failure exacerbations. It achieves this by stabilizing heart rhythm and preventing episodes of rapid or irregular heartbeat that can worsen heart failure symptoms. By maintaining a regular heartbeat, digoxin helps prevent fluid overload and subsequent hospital admissions.

However, it is important to note that while digoxin offers several benefits in heart failure management, it may not be suitable for all patients. Certain considerations need to be taken into account before prescribing this medication.

In conclusion, digoxin plays a valuable role in heart failure management by improving symptoms, reducing hospitalizations, and stabilizing heart rhythm. Its ability to enhance cardiac output makes it an important medication for patients with heart failure who continue to experience symptoms despite optimal therapy. However, careful dosing and monitoring are essential due to its narrow therapeutic window and potential drug interactions. As always, it is crucial for healthcare providers to assess each patient individually and consider the most appropriate treatment options based on their specific needs and circumstances.





#### **NOVELTIES IN CARDIAC AMYLOIDOSIS**

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Definitions

Cardiac amyloidosis: a restrictive CM resulting from the

deposition of amyloid fibrils in the myocardial interstitium.

2 most common types:

AL amyloidosis, where the amyloid fibrils are composed of monoclonal immunoglobulin light chains.

ATTR amyloidosis, where the amyloid fibrils are composed of the transthyretin protein and can occur in the context of variant or wild-type TTR genetics.





#### Variety of clinical phenotype in heart failure preserved EF

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The identification and characterization of these phenotype are very essential for better understanding the precise pathophysiology of HFpEF, identifying appropriate treatment strategies, and improving patient outcomes.





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#### Heart failure in daycare and outpatient anesthesia

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Outpatient or day surgery, is surgery that does not required an overnight hospital stay.

And heart failure is defined as a complex clinical syndrome that results from any structural or functional impairment of ventricular filling or ejection of blood at a rate sufficient to meet tissue metabolic requirements.

Outpatient surgery can be important for heart failure patient for several reasons;

1-Convenience; day care surgery allows patients to undergo necessary procedures and return home on the same day, without the need an overnight hospital stay this can be more convient and less disruptive to their daily routine.

2-Reduced infection risk ;hospital can be high –risk environments for infections ,specially for individual with weakened immune system .By avoiding an extended hospital stay ,day care surgery can help minimize the risk of exposure to hospital-acquired infections.

3-Faster recovery ;Since day care surgery allows patients to return home sooner ,it may contribute to a faster recovery .Being in a familiar home environment can promote comfort and reduce stress, which can positively impact the healing process.

4- cost effectiveness ;Day care surgery is generally less expensive than traditional inpatient surgery due to the reduced need for hospital resources and overnight stays .this can be beneficial for patient, particularly those with limited financial resources or insufficient insurance coverage.

However it is important to note that NOT ALL HEART FAILURE PROCEDURES can be performed on an outpatient basis.

In this lectuers we will talk about the suitability of day care surgery for a heart failure patient according to various factors such as the specific procedure, the patients overall health condition and stability and control of comorbid conditions and the most appropriate anesthesia methods and drugs for at least complications and the best results.





#### Mitral valve transcatheter edge-to-edge repair

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Mitral regurgitation (MR) as the most prevalent valvular heart disease when left untreated, causes

reduced quality of life, heart failure, and increased mortality. Mitral valve transcatheter edgeto-edge repair

(M-TEER) is currently a non-surgical treatment option for mitral regurgitation. With major device and interventional improvements, and accumula tion of experience by the interventional cardiologists, M-TEER has emerged as an important therapeutic

strategy for patients with severe and symptomatic MR in the current European and American guidelines.

Herein, we overview M-TEER and recent up-to-date changes in newer devices and guidelines. We discuss preprocedural patient

evaluation and highlight key aspects for decision-making. We summarise the evidence for M-TEER in both primary mitral regurgitation (PMR) and secondary

mitral regurgitation (SMR). We provide recommendations for device selection, intraprocedural

imaging and guiding, M-TEER optimisation and management of recurrent MR. we've tried to provide infor mation on major unsolved questions in M-TEER.





#### Heart Failure in patients undergoing Major Non-cardiac Surgery

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The main perioperative objective in cardiac patients is to prevent myocardial ischemia by optimizing oxygen delivery and oxygen consumption, and treating accordingly if such an imbalance should occur.

tachycardia is deleterious both by increasing the myocardial oxygen demand and by lowering oxygen transport and thus heart rate should be maintained within 20% limits of normal values.

decreases by >20% in mean arterial pressure or mean arterial pressure (MAP) values <60 mmHg for durations of >30 minutes pose a greater risk for postoperative complications that include myocardial infarction, stroke and death.

Technique for neuraxial anesthesia : The goal of neuraxial anesthesia in HF patients is to produce adequate anesthesia without inducing hypotension.

if hypotension develops, administration of alphal receptor agonists (eg, phenylephrine)or direct/indirect sympathomimetics (eg, ephedrine) is preferred to significant volume loading in HF patients.

Technique for general anesthesia : The goal of general anesthesia in HF patients is to produce an unconscious state without inducing hypotension due to relative "overdosing" of the selected induction agent.

Induction : A reasonable approach to induction of general anesthesia is use of a shortacting hypnotic (eg, etomidate 0.15 to 0.3 mg/kg, ketamine 1 to 2 mg/kg, or a low dose of propofol 1 to 2 mg/kg); a moderate dose of an opioid (eg, fentanyl, 1 to 2 mcg/kg) and/or lidocaine 50 to 100 mg may be administered to blunt the tachycardia response to laryngoscopy and intubation; and a muscle relaxant with rapid onset .

Maintenance : Use of either a volatile anesthetic agent or total IV anesthesia is reasonable. The cardioprotective effects of volatile anesthetics may be useful in patients with HF caused by ischemic heart disease. However, usual doses of volatile agents should be reduced because these agents are myocardial depressants





#### Should ARNI use in AHF

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Among patients with heart failure with reduced ejection fraction who were hospitalized for acute decompensated heart failure, the initiation of sacubitril-valsartan therapy led to a greater reduction in the NT-proBNP concentration than enalapril therapy.







#### Pregnancy in heart transplant patients, is it safe?

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-First successful pregnancy in heart transplant recipients

-Contraception in heart transplant recipients

-Preconception counselling

-maternal medication

-Maternal monitoring during , intrapartum and post partum pregnancy

-Maternal and fetal risk d







## The relationship between the NLR and PLR and the severity of coronary calcium score using multi-slice CT angiography

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Atherosclerotic diseases are one of the most common types of cardiovascular conditions which impose a heavy burden on patients' lives. Recent studies have proved the role of inflammation and inflammatory factors in the progression of this condition. Finding a relationship between inflammatory factors and coronary calcium score (CCS), calculated by CT-angiography, may benefit affected patients.

In this study, we recruited 100 patients referred to our ward to rule out coronary artery occlusion by CT-angiography. All demographic and laboratory data were collected before the CT scan. Then the coronary arteries' total and singular calcium scores were calculated using the Angaston method.

We divided our patients based on their total coronary artery calcium score. The neutrophil/lymphocyte ratio (NLR) was pointily higher in the severe CAC group, 7.70 ( $\pm 0.60$ ), and got lower with the decrease in the severity degree of CAC. The trend for CRP was the same and got notably raised by the severity of the CAC. Analysis revealed a significant correlation between the upward trend of NLR and total calcium score (r:0.582, P-value: <0.001) in patients. The ROC curve revealed the NLR of 2.45 with a sensitivity of 81% and a specificity of 80% could successfully predict the presence of total calcium scores above 100 in our patients.

The study's results showed a significant relationship between NLR and CRP as inflammatory factors and the severity of total CCS. Moreover, it proved that total CCS and diabetes and cigarette smoking have a significant relationship as an incidental finding.





#### **Management of Volume Overload in Acute Heart Failure**

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Volume overload or congestion is a characteristic feature for patients who present with acute heart failure syndromes (AHFS).

This results from elevated left and/or right ventricular filling pressures and manifests itself clinically by symptoms such as dyspnea and orthopnea and signs such as elevated jugular venous pressure, rales, hepatomegaly, and peripheral edema.

Volume overload is a leading cause of admission and readmission and may be associated with progression of heart failure (HF).2 Such admissions are not benign events, with an increased (and independent) risk of mortality following the initial and each subsequent hospitalization for HF.

Achieving euvolemia (both clinically and hemodynamically) safely is an important goal of therapy. In fact, the overwhelming majority of

patients receive diuretic therapy as their primary intervention, as seen in observational data from the United States and Europe

Signs and symptoms of volume overload is a common feature in patients presenting with acute heart failure syndromes.Management of volume overload, or congestion, is an important goal of therapy. Despite the importance of volume overload management and its challenging situation like diuretic resistance, cardiorenal syndrome and ultra-filtration, the precise causes have not been fully elucidated.





## Role of SGLT2 inhibitors in heart failure regardless of ejection fraction

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SGLT2 inhibitors are the newest drug added to heart failure treatment and despite its effect on glucose control it has cardiovascular effects and they are one of four cornerstone drug of heart failure.

SGLT2 inhibitors are effective for the primary and secondary prevention of HF across a broad spectrum of patient populations and care settings. The data have demonstrated that SGLT2 inhibitors reduce the risk of HF irrespective of diabetes or HF status and are generally safe with no clear evidence of any major safety concerns.

We found that these medications are useful in both HFrEF and HFpEF irrespective of the

diabetes status of a patient. These medications are generally well tolerated and are safe to use although there is a slightly increased risk of genitourinary infections and euglycemic ketoacidosis. Further randomized controlled trials would be useful to explore the efficacy and safety of these medications.





#### **Emerging therapies in acute heart failure**

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در این جلسه در حدود ۳۰ دقیقه در مورد یک سری نکات فارماکوتراپی بیماران با نارسایی حاد قلبی صحبت خواهد شد در مورد نقش استازولامید که مطالعات جدیدتری که در مورد آن منتشر شده است، جایگاه دارو در پرکتیس بالاینی و اصول استفاده از آن نيز صحبت خواهد شد

مطالعات جدیدتری در مورد نقش مهارکننده های <mark>سدیم گلوکز کوترانسپورتر در در</mark>مان نارسایی حاد قلبی نیز مطرح است که مروری بر آن ها صورت خواهد گرفت

زمان تزریق داروی فورزماید در بیمار<mark>ان با نارسایی</mark> حاد قلبی که با ادم ریوی بستری شده اند نیز ممکن است از اهمیت بالایی برخوردار باشد که این مورد نیز مورد بحث قر<mark>ار خواهد گرفت</mark>

در مورد یک مطالعه جدید که به م<mark>قایسه فو</mark>رزما<mark>ید و</mark> تورزماید پرداخته است نیز صحبت و اشاره می شود .

همچنین در مورد اصول کلی رویکر<mark>د به بیمار</mark>ان نارس<mark>ایی ق</mark>ل حاد قلبی که ب<mark>عد از ش</mark>روع در<mark>مان با دیور</mark>تیک تراپی دچار رایز کراتینین می شوند نیز صحبحت می شود

مدیریت داروهای زمینه ای مزمن بیمار م<mark>انند درمان های</mark> مهار کننده سیستم ر<mark>نین آنژیوتانسی</mark>ون و بتابابلوکر و… در شرایط نارسایی حاد قلبی بخث خواهد شد .





#### What is recovered heart failure what should we know and do

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We are going to discuss definitions of HFrecEF and the new terminology then talking about incidence of HFrecEF in HFrEF and about continuing or discontinuing medication then talking cons and pros by reviewing some articles on this subject







### **Revascularization in advanced heart failure**

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Coronary artery disease is the most common cause of heart failure and is associated with poor survival and low quality of life despite advances in medical therapy.2 Treating the coronary arteries to improve blood supply (revascularisation) has long been considered as a treatment option in this population. In the STICH trial, coronary artery bypass surgery improved survival but only in highly selected, typically young, patients.3 However, the benefit took 10 years to emerge. PCI was an attractive alternative to bypass surgery, as it might offer the benefits of revascularisation without the early hazard. However, there was no randomised evidence to support this and guidelines recommending the use of this treatment in some patients were based only on expert opinion.

REVIVED-BCIS2 is the first adequately powered randomised trial to examine the efficacy and safety of PCI in patients with left ventricular systolic dysfunction. The trial enrolled patients with severe left ventricular dysfunction, extensive coronary artery disease and demonstrable viability that could be revascularised by PCI. Viability could be assessed by any modality, but cardiac magnetic resonance imaging was used most. Those with a myocardial infarction within four weeks, decompensated heart failure or sustained ventricular arrhythmias within 72 hours were excluded.

A total of 700 patients from 40 centres in the UK were randomly assigned in a 1:1 ratio to either PCI with optimal medical therapy or optimal medical therapy alone. The primary outcome was the composite of all-cause death or hospitalisation for heart failure. Secondary outcomes included left ventricular ejection fraction at six and 12 months and quality of life measures.

During a median follow up of 3.4 years, the primary outcome occurred in 129 (37.2%) patients in the PCI group and 134 (38.0%) patients in the medical therapy alone group for a hazard ratio of 0.99 (95% confidence interval 0.78–1.27, p=0.96).





### Heart failure Pharmacotherapy pearls

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در این جلسه به بررسی دو بیمار با نارسایی قلبی که تحت درمان داروهای مختلف (داروها برای نارسایی قلبی و سایر داروها) می باشد و بیماران از نظر بهینه سازی رژیم دارودرمانی و بررسی داروهای تجویز شده تحت مشاوره فارماکوتراپی قرار می گیرند و در جلسه در مورد . نكات دارويي بر اساس اخرين گايدلاين ها و دستورالعمل ها پرداخته مي شود







### Stress cardiomyopathy

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Stress cardiomyopathy is characterized by acute, usually reversible LV dysfunction in the absence of significant CAD, usually triggered by acute emotional or physical stress.

Emotional stressors such as the unexpected death of a close relative may trigger the TTS,

Furthermore, manifold physical triggers, from severe medical conditions such as end-stage chronic obstructive lung disease, intracranial hemorrhages, and coronavirus may trigger TTS.

The pathogenesis of this disorder is not well understood.

Postulated mechanisms include catecholamine excess, microvascular dysfunction, and coronary artery spasm.

The clinical presentation is similar to that of an acute coronary syndrome (ACS; ST-elevation MI, non-ST-elevation MI, or unstable angina).

Approximately 10 percent of patients with stress cardiomyopathy develop symptoms and signs of cardiogenic shock .

The RWMA ranges beyond the coronary artery supply regions and is predominantly localized to the apical segments of the LV,

Midventricular (20%) TTS featured by hypo-, a-, or dyskinesia of midventricular segments, most often resembling a cuff.Basal forms (3%) where only basal segments are involved:

Focal TTS mostly involving an anterolateral segment has been described. Differentiating this unusual TTS type from ACS or myocarditis requires CMR.

serious adverse in-hospital events which occur in approximately one-fifth of patients.

Common in-hospital complications include cardiac arrhythmias, LVOTO, cardiogenic shock, ventricular thrombus, pulmonary oedema, ventricular septal defect, and free wall rupture.

Some suggest cautious fluid resuscitation for patients with hypotension without significant pulmonary congestion Management of CS in TTS is challenging because usual therapeutic options (e.g., catecholamines ) can be potentially harmful.





### **Obesity (Iranian traditional medicine)**

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در حال حاضر چاقی یکی از مهمترین عوامل قابل پیشگیری از انواع بیماریها و مرگ و میر است، خطر افزایش بیماریهایی مانند بیماریهای . ریوی و قلبی با شدت وزن ارتباط مستقیم دارد

تاكنون درمان رضايتبخشي براي درمان چاقي وجود نداشته

.سوق میدهد Personalized Medicine پیشرفت جدید علم پزشکی در دنیا این علم را به سمت

این نوع طبابت، در واقع قبل از شروع درما<mark>ن بیماران را ط</mark>بقهبندی میکند و با توجه به خصوصیات هر فرد درمان را انتخاب و تجویز . مے نماید

در طبسنتی ایرانی این شخصیساز<mark>ی شدن ب</mark>ر ا<mark>ساس</mark> واژه مزاج اتفاق افتاده است

.مزاج از تأثیرات فاکتورهای مختلف<mark>ی در بدن</mark> انسا<mark>ن بوج</mark>ود میآید و روی فعالیتها<mark>ی فی</mark>زیک<mark>ی و احساس</mark>ی و روانی او اثرگذار است

آن چیزی که در طب جدید چاقی د<mark>رنظر گرفت</mark>ه میشود شاید در طبسنت<mark>ی چاق</mark>ی نباشد

در واقع برای هر فردی با شرایط خاص عدد مشخصی بعنوان ایدهآ ل وزنی در نظر گرفته می شود

و نکته کلیدی در انتخاب وزن ایده آل برای <mark>هر شخص کارکرد درست و صحیح فرد در انجام</mark> کارهای روزانه و وجود عملکرد درست . ارگانهای اوست

: در تقسیم بندی طب سنتی دو گروه از افراد هستند که بیشتر از بقیه مستعد چاقی هستند

گروه اول) مزاج سرد و تر(،گروه دوم ) مزاج گرم و تر(

هر دو نوع در "رطوبت یا تری" با هم مشترک هستند. با این بیان روشن میشود که تری)رطوبت( در بروز چاقی نقش دارد، علل بوجود آورنده رطوبت در بدن: بی تحرکی، زیاد بودن خواب، تجمع مواد دفعی بدن )مثل یبوست در افراد(، پرخوری و پرنوشی، خوردن زیاد . غذاهای و میوههای تر. برای درمان چاقی باید اقدام به توصیه هایی در جهت ضد رطوبت بدن کرد

گیاهان دارویی متعددی چون چای سبز، دارچین، کرفس، گل سرخ، زیره سیاه و بادام برای کمک به کاهش وزن در مقالات و کتب . طبسنتی ذکر شده که با کمک از آنها میتوان درمان موثری را تجربه کرد

درمان به روش طب سنتی به تنهایی یا همراه سایر درمانها برای افراد چاق پیشنهاد میشود درمقایسه با داروهای شیمیایی پژوهش بسیار کمی درباره اثر بخشی و ایمنی این درمانها درکاهش وزن انجام شده، پیشنهاد میشود این روشها مورد ارزیابی قرار بگیرد تا در صورت اثبات اثربخشی به کمک طبسنتی در درمان چاقی موفق تر باشیم و عوارض را کمتر کنیم





### Upgrading to cardiac resynchronisation therapy: Indication and outcome

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In patients with heart failure (HF), reduced left ventricular ejection fraction (LVEF) and delayed left ventricular electrical activation (typically left bundle branch block with QRS duration >130 ms), cardiac resynchronisation therapy (CRT) reduces mechanical dyssynchrony.

Patients with a permanent pacemaker (PPM) or implantable cardioverter defibrillator (ICD) may develop HF symptoms because the sequence of electrical activation in RV pacing resembles the activation pattern seen in LBBB. This asynchronous electrical activation causes abnormal mechanical interactions within the left ventricle and between the two ventricles, inducing dyssynchrony.

In patients with a CIED with a decline in LV function or worsening of HF

symptoms attributed to substantial ventricular pacing, CRT with BiV pacing or other forms of physiologic pacing is

recommended to improve LV function and improve HF symptoms.

Device revision to CRT in patients with RV pacing induced HF demonstrated a significant improvement in LVEF, with the greatest improvement observed in patients who had a higher percentage of RV pacing at baseline, a non-ischaemic aetiology of HF and were in sinus rhythm.





### Anesthesia management for HF in CHD

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7th International Iranian Heart Failure Summit

CHF in CHD

Clinical HF in CHD is multifactorial. An ineffective cardiovascular system in CHD, even after repair, can be the cumulative result of valvular abnormalities, shunts, flow obstruction, arrhythmia, or persistent anatomic defects such as an SV, as well as dysfunction of the myocardium itself. Likewise, myocardial dysfunction in CHD can be the result of hemodynamic derangements such as abnormal pressure or volume loading, ventricular hypertrophy, myocardial ischemia, or effects of prior cardiopulmonary bypass or ventriculotomy. Any of these may incite systolic or diastolic impairment and clinical manifestations such as arrhythmia or exercise intolerance. In addition, constriction as a consequence of prior surgery may cause HF symptoms.

The management of congestive heart failure (CHF) is difficult and sometimes dangerous without knowledge of the underlying cause. Consequently, the first priority is acquiring a good understanding of the etiology. The goals of medical therapy for congestive heart failure include the following:

- Reducing the preload
- Enhancing cardiac contractility
- Reducing the afterload
- Improving oxygen delivery
- Enhancing nutrition

Preload reduction can be achieved with oral (PO) or intravenous (IV) diuretics (e.g., furosemide, thiazides, metolazone). Venous dilators (e.g., nitroglycerin) can be administered, but their use is less common in pediatric practice. Contractility can be supported with IV agents (e.g., dopamine) or mixed agents (e.g., dobutamine, inamrinone, milrinone).

Afterload reduction is obtained orally through administration of ACE inhibitors or intravenously through administration of other agents, such as hydralazine, nitroprusside, and alprostadil.





HF remains a common, difficult, and often final complication of CHD. Therefore, preservation of myocardial function should be a major overarching goal throughout the life of patients with CHD.







### **Hypertension and Heart Failure**

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Hypertension is a major cause of heart failure and other cardiovascular diseases. Its role in the development of heart failure with reduced ejection fraction (HFrEF) is different from that in heart failure with preserved ejection fraction (HFpEF). Furthermore, strict blood pressure control may lessen the incidence of heart failure. Yet, once heart failure develops, prognosis is determined by blood pressure, which may be different between patients with and without heart failure. Therefore, the correlation between guideline-directed medical therapy for heart failure and its effective doses must be considered for blood pressure management and should not be missed. However, severe blood pressure lowering can result in adverse outcomes, because an inverse J-curve association should be considered between the blood pressure and the outcomes of patients with heart failure. Little strong evidence exists concerning the ideal blood pressure target for patients with heart failure, but a recording near 130/80 mmHg seems to be satisfactory as stated by the current guidelines.





### **Evaluation and Management of Common Symptoms in End-Stage Heart Failure**

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Heart failure is a chronic, progressive, and eventually fatal disease that affects approximately 6 million American adults and 870,000 are identified annually. Despite progress in HF therapies, about 40 % of patients die in the first year and after their first hospital hospitalization. During HF, patients typically experience physical and emotional symptoms that cause them to be unable and thus reduce the quality of life in them.

Palliative Care is the active total care of persons with advanced, progressive disease such as heart failure. The goal of palliative care is the best quality of life for patients and their families.

A palliative approach is relevant across the heart failure trajectory. Care can be provided by a range of health care professionals and it is presented as teamwork. Interdisciplinary teamwork provides increase complexity of skills and knowledge needed to provide comprehensive care because no single professional can meet all the complex needs.

Symptom management is foundational to palliative care. Common symptom in end-stage heart failure includes Physical, psychological, spiritual, social symptoms as the following: Dyspnea, Edema, Pain, Anxiety and depression, Constipation, Nausea and vomiting, Anorexia, Cachexia and Fatigue.

Treatment goals should be discussed between the patient, family, and the healthcare team periodically throughout the trajectory of their illness and the intent to care adjusted accordingly.

Nurses are at the forefront of symptom management and must be knowledgeable about how to evaluate symptoms and recommend evidence-based strategies for care planning.

Key Words: Heart Failure, Palliative Care, Symptom management, Nurses





### **Challenges in diagnosis of HFpEF**

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the incidence of heart failure with preserved ejection fraction (HFpEF) continues to rise. HFpEF now accounts for more than 50% of cases of HF. HFpEF is often under-recognized and results in substantial resource utilization.

Universal Definition of Heart Failure: symptoms and/or signs of HF caused by structural/functional cardiac abnormalities and at least 1 of: 1) elevated natriuretic peptides; or 2) objective evidence of cardiogenic pulmonary or systemic congestion.

Although the Universal Definition of HF may be useful to guide clinicians, establishing a diagnosis of HFpEF may be more difficult given that the echocardiogram may not demonstrate obvious structural or functional cardiac abnormalities and the natriuretic peptide levels may be normal, especially in individuals with obesity. Given the lack of testing to definitively establish the diagnosis of HFpEF, the use of clinical scoring systems may be useful to aid in the diagnostic evaluation of suspected HFpEF. Both the H2FPEF and HFA-PEFF algorithms use a scoring system to help determine the likelihood that HFpEF is the underlying etiology in a dyspneic person.

### **HFpEF Mimics**

Noncardiac Disease Mimics: some individuals who present with symptoms of dyspnea and/or edema may not have HF. There are noncardiovascular entities that may mimic HF, including kidney failure or nephrotic syndrome, liver failure or cirrhosis, anemia, severe obesity with peripheral edema, lung disease with or without cor-pulmonale, primary pulmonary hypertension, and chronic respiratory failure hypoventilation syndrome.

Cardiac Mimics: Rather than presuming that all individuals with evidence of congestion and preserved EF have HFpEF, such individuals should undergo further diagnostic assessment, as dictated by the clinical presentation, to identify underlying causes for which there are diseasedirected therapies.





### complication and outcome of LVAD

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LVAD outcomes are equivalent to HT at 2 years and average LVAD survival is expected to surpass 5 years in patients on durable HM3 support.

LVAD patients still experience adverse events (AEs), with infection and major bleeding being the most common.

Intermacs Registry report, at 1-year post implantation, 41% of patients have had infection, 33% have had major bleeding (about 50% of which is gastrointestinal [GI]), 13% have had a stroke, and 72% have been rehospitalized.

leading causes of death in LVAD recipients include multiorgan failure (16%), neurologic dysfunction (16%), and HF (13%).







### Who should be listed for LVAD implantation?

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Advanced heart failure is recognized by several criteria such as I NEED HELP. The management of patients with advanced heart failure is difficult and LVAD implantation or heart transplantation are recommended for these patients. The correct decision for LVAD implantation or heart transplantation at the suitable time is of critical importance. This decision is made based on cardiac evaluation, patient characteristics and comorbidities. Some of cardiac abnormality needs to be adjusted before LVAD implantation, these include valvular disease, intracardiac shunts and etc.







# Functional ischemic mitral regurgitation,Definition and guidelines

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نارسایی ایسکمیک دریچه میترال

. نارسایی ایسکمیک دریچه میترال شامل نارسایی حاد و مزمن می باشد

، به دنبال سندروم حاد کرونری و یا سکته حاد قلبی رخ می دهد و ناشی از (Acute ischemic MR) نارسایی حاد دریچه -ایسکمی عضلات پاپیلاری ویا پارگی آنها ، اتساع حاد بطن چپ به دنبال ایسکمی ویا به دلیل افزایش فشار دیاستولیک بطن چپ می . باشد

می باشد، به IIIB ، نوع Carpentier ، که در تقسیم بندی ( Chronic ischemic MR,CIMR )نارسایی مزمن دریچه-، اتساع مزمن بطن چپ،افزایش فاصله عضلات پاپیلاری از لتهای دریچه و اتساع Remodeling دلیل تغییرات ژئومتریک در بطن ، .می شود Closing force و کاهش Tethering force آنولوس میترال است که نهایتا منجر به افزایش

نقش اکو در بررسی شدت نارسایی ای<mark>سکمیک دری</mark>چه میترال

- Distal jet area : اگر بیشتر از ۴۰-۵۰٪ از حجم دهلیز چپ را شامل شود ، دال بر نارسایی شدید است: Distal jet area

- Vena contracta (VC): ۷ بیشتر از mm بیشتر از ۷ اسایی شدید است.

-Simplified PISA, EROA and 3D VC area :

، شدت نارسایی را بیشتر تخمین بزنند و لذا Nonholosystolic MR نکته بسیار مهم این است که همه موارد فوق ممکن است در Regurgitant volume  $_{\rm e}$  R.fraction و R.fraction استفاده از Regurgitant volume ( شدید است MR ، دال بر (50%

در نظر گرفنه می شود Severe MR در گایدلانهای اخیرانجمن اکوی آمریکا ، وجود حداقل ۴ مورد از ۶ مورد زیر به عنوان

- Flail leaflet
- VCW  $\geq$  0.7 cm
- PISA radius  $\geq$  1.0 cm at Nyquist 30- 40 cm/s
- Central large jet > 50% of LA area
- Pulmonary vein systolic flow reversal
- Enlarged LV with normal function

Joint 7th International Iranian Heart Failure Summit



درمان نارسایی میترال ناشی از ایسکمی •

.است که شامل موارد زیر می باشد (GDMT) اولین اقدام در درمان ، درمان دارویی نارسایی قلبی مبتنی بر گایدلاین ،در IIa در صورتی که بیمار کاندید عمل بای پس کرونر باشد ،درصورت نارسایی شدید میترال ، جراحی همزمان دریچه با کلاس .گایدلاین است

Transcatheter edge to، استفاده از ( FC II,III,IV ) در مواردی که علیرغم درمان دارویی ، بیمار همچنان علامتدار باشد edge repair (TEER)، توصیه می شود با کلاس گایدلاین (۲۰ – LVEF (۲۰۵ ، LVESD > %  $PAP \le 70$  ).70







### Cancer survivorship: adverse outcomes and long-term cardiovascular considerations

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Cancer confers risk for various cardiovascular diseases including heart failure, cardiomyopathy, arrhythmia,

coronary heart disease, stroke, venous thromboembolism, and valvular heart disease. Cancer treatment, in particular agents

such as platinum-based chemotherapy, anthracyclines, hormonal treatments, and thoracic radiotherapy, further increases risk.

While cardiovascular disease can be identifed early and efectively managed in cancer survivors, cardiovascular screening

and management does not typically feature in routine long-term cancer care of adult cancer survivors.







### Decompensated right heart failure, intensive care and perioperative management in patients with pulmonary hypertension

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Aim of this Conference was to compile consensus based practice recommendations based on the

2015 European Pulmonary Hypertension guidelines, aiming at their practical implementation, considering

country-specific issues, and including new evidence, where available. This article summarizes the results and up dated recommendations of the working group on decompensated right heart failure (RHF), intensive care

and perioperative management in patients with pulmonary hypertension. The RHF section comprises definition

and pathophysiology, diagnosis and monitoring, identification of triggering factors and supportive therapy of

RHF, volume management as well as PAH targeting therapy, therapy with inotropic, inodilator and vasopressor

drugs, extracorporeal support and transplantation. The second part of this article summarizes preoperative man agement, perioperative monitoring and choice of anesthesia.





### Cardiomyopathy and arrhythmia

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نارسایی قلب تظاهر نهایی اکثر بیماریهای قلبی است . شیوع آن بین ۲ تا ۳ درصد جامعه تخمین زده میشود و با افزایش سن شیوع آن تا ۱۰ درصد هم گزارش شده است. این بیماری پیشرونده بوده و مرگ و میر تا ۵۰٪ در سال برای مبتلایان پیش بینی شده است. علت مرگ در دو سوم بیماران عوارض ناشی از نارسایی پیشرونده قلبی میباشد ولی در یک سوم بیماران مرگ ناگهانی ناشی از آریتمیهای بدخیم در بيماراني كه سابقه ارست قلبي دارند موثرترين راه پيشگيري از تكرار حملات است. AICD بطني عامل فوت بيماران ميباشد. تعبيه اینکه کدام بیمار دچار نارسایی قلب بیشتر در خطر عوارض آریتمیک بیماری میباشد موضوع تحقیقات گسترده ای بوده و در این سخنرانی به فاکتورهای مستعد کننده بیمار جهت بروز آریتمیه<mark>ا و شواهد به نفع یا علیه هر یک</mark> از این عوامل مستعد کننده خواهیم پرداخت. مطالعات گذشته به بسیاری فاکتورهای مستعد <mark>کننده برای مرگ ناگهانی در این بیماران اشار</mark>ه شده است ولی ارزش پیش گویی کننده این عوامل در بروز مرگ ناگهانی بسیار پایین میباشد. هنوز مطالعات بیشتری برای پیدا کردن بیماران نارسایی قلب در معرض خطر .مرگ ناگهانی مورد نیاز میباشد







مانيتورينگ نوار قلبي در نارسايي قلبي

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نارسایی قلب یکی از بیماری های قلبی است که اگر منجر به بزرگ شدن تمام یا قسمتی از قلب بشود, توسط نوار قلبی تشخیص داده می شود. تشخیص دقیق آریتمیها یا بینظمی قلبی از موارد بسیار مهمی است که تنها با انجام نوار قلب و مشاهده علمی و دقیق پرستاران حرفه ای و ماهر میسر است. نوارهای قلب میتوانند اختلالات هدایتی و عضلانی قلب را به خوبی نشان دهند.

کاربردهای نوارهای قلبی گسترده است اگرچه بیشترین و مر<mark>سوم ترین استفاد</mark>های که از آن برده می شود، در بررسی سکته قلبی می باشد، ولی در نارسایی قلب نیز که یکی از بیماری های قلبی است و باعث بزرگ شدن تمام یا قسمتی از قلب می شود, توسط نوار قلبی . تشخیص داده می شود

تشخیص دقیق آریتمیها یا بینظمی <mark>قلبی در نارس</mark>ایی قلبی از موارد بسیار مهمی اس<mark>ت که تنها با</mark> انجام نوار قلب میسر است زیرا نوارهای . قلب میتوانند اختلالات ه<mark>دایتی و ع</mark>ضلا<mark>نی</mark> قلب را نشان دهد

مانیتورینگ قلبی می تواند به تشخیص موارد زی<mark>ر ک</mark>مک کند.

آریتمی های قلبی که در آن قلب <mark>خیلی آه</mark>سته، خیلی سریع یا نامنظم می تپد.

.بیماری عروق کرونر قلب که در آن منبع خون قلب با تجمع مواد چرب مسدود می شود

سکته قلبی یا حمله قلبی که در آن جریان <mark>خون به قلب ناگهان مسدود می شود.</mark>

.کاردیومیوپاتی جایی که دیواره های قلب ضخیم یا بزرگ می شوند

. که همه موارد فوق می توانند در بیماران مبتلا به نارسایی قلب نیز رخ دهندو در ارایه سخنرانی به آنها اشاره می شود





### Heart failure medications

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Heart failure (HF) is a common clinical syndrome with symptoms caused by impairment of one or both ventricles to provide adequate cardiac output at a normal filling pressure due to a structural or functional cardiac disorder . Patients with symptoms of HF and left ventricular ejection fraction (LVEF)  $\leq$ 40 percent are classified as having HF with reduced ejection fraction HFrEF); this classification identifies patients for whom treatment with a regimen of medical therapy may reduce the severity of symptoms, morbidity, and mortality associated with HF. Primary components of therapy – In patients with HFrEF who have New York Heart Association (NYHA) class II to III symptoms (table 1), we suggest combination therapy with one agent from each of the following classes rather than other combinations consist of: Angiotensin receptor blocker-neprilysin inhibitor (ARNI; ie, sacubitrilvalsartan(Beta blocker Mineralocorticoid receptor antagonist (MRA)Sodium-glucose cotransporter 2 (SGLT2) inhibitor (regardless of comorbid diabetes status). Positive inotropic agents used to treat heart failure with reduced ejection fraction (HFrEF) include intravenous phosphodiesterase (PDE)-3 inhibitors (eg, milrinone), beta adrenergic receptor agonists (eg, dobutamine), intravenous calcium-sensitizing agents (eg, levosimendan, available in some countries outside the United States), and digoxin (available in oral and intravenous form). In addition, several of these agents increase cardiac output due to direct arterial vasodilator effects (eg, milrinone, levosimendan, pimobendan) and/or the reflex withdrawal of neurohormonal vasoconstrictor mechanisms such as angiotensin II and norepinephrine (eg, dobutamine, digoxin).





### How to Approach to Mitral Regurgitation in Heart Failure

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In chronic secondary mitral regurgitation (MR), the mitral valve leaflets and chords usually are normal or minimally thickened, in fact, MR is associated with severe LV dysfunction caused by coronary artery disease (CAD) or ischemic chronic secondary MR or nonischemic chronic secondary MR resulting from idiopathic myocardial disease. Dilated and abnormal left ventricle (LV) causes papillary muscle displacement, leaflet tethering with relevant annular dilation that interact adequate leaflet coaptation.

Left atrial (LA) dilation and enlargement of the mitral annulus could cause secondary MR which often occurs in setting of AF and other cardiomyopathies.

The summary of management in this situation is as follows:

1- Standard Guideline directed Medical Therapy (GDMT) for HF is the mainstay of therapy: Diuretics, beta blockers, ACE inhibitors or ARBs, and aldosterone antagonists improve symptoms and or prolong life in patients with HF especially when HF is complicated by chronic secondary MR.

2-Mitral transcatheter edge-to-edge repair (TEER) is indicated to improve symptoms and prolong life in a select subset of patients with chronic severe secondary MR, LV systolic dysfunction, and persistent severe symptoms in spite of optimal GDMT

3-Observational studies and a substudy of the randomized STICH trial suggest that it is wise to address the mitral valve during CABG for severe CAD when secondary MR is severe.

4-In patients with preserved LV systolic function and progressive LA dilation and associated AF, successful ablation of AF may reduce or eliminate MR





### Hypertension in pregnancy

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Hypertensive disorders of pregnancy are one of the leading causes of maternal and perinatal mortality worldwide and responsible for 16% of maternal deaths in high-income countries.

- They can be classified into four categories:
- preeclampsia/eclampsia, gestational hypertension, chronic hypertension, and
- chronic hypertension with superimposed preeclampsia

Hypertension in pregnancy is defined: SBP>= 140 mm Hg or DBP >= 90 mm Hg on two measurements at least 4 hours apart, with the proviso that the second measurement can be obtained within 15 minutes if the BP is severely elevated (SBP  $\geq 160$  or DBP  $\geq 110$  mm Hg).

Preeclampsia is defined as: (1) hypertension (defined earlier) after 20 weeks' gestation in persons who were previously normotensive and (2) new-onset proteinuria or new-onset end-organ damage. In the presence of new-onset end-organ manifestations, proteinuria is not needed to establish a diagnosis.

Tight control of BP (DBP <85mm Hg) did not confer an improved maternal or perinatal outcome compared with less tight control of BP but did reduce the risk of developing severe hypertension.

Currently, the optimal goal for BP therapy varies between United States (range of 140 to 150/90 to 100 mm Hg), European (<140/90mm Hg), and Canadian (<85mm Hg diastolic BP) recommendations.

Women with hypertension during pregnancy require longitudinal follow-up and risk factor modification because they are at elevated risk of developing hypertension or cardiovascular disease later in life





### Myocardial Viability, Dilemma in treatment strategy

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Identification of myocardial viability are clinically useful for decision making and selection of therapeutic strategies for patients with ischaemic LV dysfunction

concept of myocardial viability has evolved from coronary artery disease with the purpose of myocardial revascularization, to other myocardial diseases including valvular heart disease and non-ischaemic CMPs where it is used to guide other therapeutic options such as CRT and dedicated electrical interventions( below figure)

Specific methods for viability detection are Echocardiography, Nuclear imaging(SPECT/PET )and CMR

selection of a test for viability assessment should be based on advantages, disadvantages, local experience, and availability and individual patient characteristics

If the dysfunctional myocardial segment possesses relatively preserved thickness with wall motion no worse than hypokinesis and absence of Q waves on EKG, it is unlikely that segment is Non Viable Myocardium (scar), precluding need for any further testing to assess viability.

Patients with extreme degrees of LV dilatation and segmental wall thinning may need an advanced imaging modality (CMR, PET) that could distinguish Partially VM from NVM (scar)

In patients with mild to moderate degree of LV dysfunction and remodeling, dobutamine stress Echo and SPECT imaging may suffice

current guidelines do not advocate (Class IIb indication) routine testing of myocardial viability to select revascularization of patients with heart failure

In STICH TRIAL there was no demonstrable interaction between the presence of substantial amounts of viable myocardium and the benefit of revascularization, either at 5 years or at 10 years of follow-up.

it remains reasonable to consider viability testing in selected patients. For example, viability assessment may be considered for patients who might benefit from revascularization but have high operative risk due to age and/or comorbidities.



International Iranian Heart Failure Summit



نارسایی قلبی در بارداری

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طی یک بارداری طبیعی، سیستم قلبی عروقی مادر دچار تغییرات زیادی می شود که فشار فیزیولوژیکی بر قلب وارد می کند. تغییرات عمده قلبی عروقی که در یک بارداری طبیعی رخ می دهد و زنان مبتلا به بیماری قلبی را تحت تاثیر قرار می دهد عبارتند از افزایش حجم داخل عروقی، کاهش مقاومت عروقی سیستمیک، تغییرات برون ده قلبی که در حین لیبر و زایمان اتفاق می افتد و تغییرات حجم داخل عروقی که درست بعد از زایمان رخ می دهد. این تغییرات فیزیولوژیکی در دوران بارداری وجود دارد و تا چند هفته پس از زایمان ادامه می یابد. قلب طبیعی می تواند بار کاری افزایش یافته را جبران کند، بنابراین بارداری، لیبر و زایمان به طور کلی به خوبی تحمل می شود، اما قلب بیمار از نظر همودینامیک به چالش کشیده می شود. اگر تغییرات قلبی عروقی به خوبی تحمل نشود، نارسایی قلبی می تواند در دوران بارداری، زایمان یا دوره پس از زایمان ایجاد شود. علاوه بر این، اگر بیماری میوکارد ایجاد شود، بیماری دریچه ای وجود داشته باشد، یا نقص مادرزادی قلب وجود داشته باشد، نارسایی قلبی ممکن است رخ دهد. تب عامل اصلی نارسایی قلبی در دوران بارداری است.







# **Optimizing foundational therapies in patients with heart failure reduced ejection fraction; Translation trials to clinical care**

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Recent trials showed that some medications can reduce the rate of mortality and hospitalization among HfrEF patients. Current management guidelines strongly recommend use of four classes of medication to improve survival & quality of life. These recommended therapies include ACEi/ARB/ARNI, beta blocker(B-B), MRA and SGLT2i.Combination of these medication can improve life expectancy. To achieve maximum benefit, guidelines recommend that each medication be titrated to target dose. Unfortunately despite strong evidence from clinical trials, guideline directed medical therapies (GDMT) with established cardiovascular benefit remain significantly underutilized in clinical practice. Previous guidelines recommended, sequential initiation of the different classes of drugs. Starting with ACEi/ARB and a beta blocker, followed by MRA & then ARNI in replacement of ACEI, furthermore, the dose of each therapy are increased to the highest tolerated dose before starting a new class. To achieve optimal dosing by this manner it take up to 12 months and patients not receiving several of these lifesaving therapies. Another wrong believe is that only maximum doses of GDMT have therapeutic effect and new therapy should only be prescribed when the maximum doses are achieved. But new evidence supports the view that even low dose of these medications can reduce morbidity and mortality .Another concern is the cost effectiveness of treatment, ARNI & Dapagliflozin have been shown to be associated with significant cost saving to health care systems by reducing the rate of hospitalization.

Conclusions: Use and dosing of guideline-directed medical therapy (GDMT) in patients with heart failure (HF) have been shown to be sub optimal. To achieve maximum benefit, each medication should be titrated to highest tolerable target dose .Updated clinical consensus and guidelines are moving away from recommendations of sequential therapy to rapid initiation of therapies .





### **TOP TRIALS IN HEART FAILURE**

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TOP NEW TRIALS IN HEART FAILURE are reviewed.







### Management of pregnancy in cardiomyopathies and heart failure

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in this session, we discuss the effect of pregnancy on hemodynamics and its complications in women with cardiomyopathy







### **Comprehensive in-hospital monitoring of Acute Heart Failure**

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Non invasive measurements be repeated at intervals based on changing on patient's status. pulmonary congestion can occur without weight gain through redistribution the ratio of venoarterial CO2 gradient>6mmHg suggest that tissue perfusion is inadequate capillary refill time less than 3 seconds can be compared with serum lactate. Lactate>2 is associated with higher mortality. 30% reduction in Pro BNP is marker of response to treatment. In echocardiography E/A>2 is a clue for increase filling pressure.

e/e'>15, LA volume>34 ml/m<sup>2</sup>, TR velocity>2.8 m/s are echo indices of increase filling pressure. 15% increase in IVC diameter in intubated patients means volume responsiveness. Stroke volume variation > 10% in response to fluid therapy is also a clue for volume response. LVOT VTI<2cm means CI<2. If 2 of these parameters persist it means increase filling pressure. Lower thoracic bioimpedance is associated with lower cardiac output. Near infrared spectroscopy are associated with hypoperfusion in sublingual tissue measurement. In summary, we can use different tools in hemodynamic measures for detect patient congestion or hypoperfusion.





### مراقبت های پرستاری در اینترونشنال کاردیولوژی

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مراقبت های پرستاری در اینترونشنال کاردیولوژی

و ....انجام میشود ICD در بخش کت لب بیمارستان ها پروسیجرهای متفاوتی نظیر آنژیوگرافی ،آنژیوپلاستی ،تعبیه پیس میکر ،تعبیه که همانند کلیه پروسیجرهای انجام شده در بیمارستان ها ارایه خدمات مطلوب تر به بیماران مستلزم مراقبت های پرستاری با کیفیت ميباشد

مراقبت های پرستاری انجام شده در هر پروسیجر به سه <mark>سطح مراقبتهای پرستاری قبل ،ح</mark>ین و بعد پروسیجر تقسیم میگردد که در هر مرحله آموزش به بیمار جهت همکاری و ب<mark>هبود سیر مراق</mark>بت و پیشگیری از عوارض <mark>دارای اهمیت</mark> بالایی میباشد ،شایان ذکر است در . مرحله مراقبتهای پرستاری بعد پروس<mark>یجر آموزش</mark>های لازم به بیمار در زمینه مراقبت <mark>در منزل اه</mark>میت ویژه تری میابد

علاوه بر مراقبتهای پرستاری عمومی <mark>انجام شده</mark> در <mark>پرو</mark>سیجرها نظیر اخذ رضایت ،تکمیل نم<mark>ودن آزمای</mark>شات و اوراق پرونده ،ثبت در پرونده ، کنترل محل انجام پروسیجر؛جهت س<mark>هولت مراق</mark>بته<mark>ای پ</mark>رستاری اختصاصی پروسیج<mark>رهای</mark> اینت<mark>رونشنال ا</mark>نجام شده را به دو دسته کلی تقسیم بندی نموده ایم :دسته اول پروسیجر<mark>هایی است</mark> که با <mark>ورود ک</mark>اتتر جهت بررسی <mark>و انجا</mark>م اقدام<mark>ات درمانی</mark> بر روی عروق قلبی انجام می پذیرد نظیر آنژیوگرافی ،آنژیوپلاستی که مراقبتها در <mark>هر</mark> سه مرحله علاوه بر تمرکز بر محل و نحو<mark>ه ورود کات</mark>تر توجه ویژه بر مراقبتهای ها برای بيماران انجام ميشود كه بعلت احتمال Device لازم در بيماريهاي عروقي دارد .دست<mark>ه دوم پروس</mark>يجرهايي است كه با تعبيه انواع قلب در بيماران نارسايي قلب اين دسته مورد توجه بيشتر ميباشد و بعلت زندگي مادام العمر EF بروز انواع آريتمي ها و كاهش ميزان . ها آموزش به بیماران در زمینه های متفاوت نظیر پیشگیری از عفونت دارای اهمیت ویژه ای میباشد Device بیماران با این

کلمات کلیدی :بخش کت لب ،پروسیجرهای اینترونشنال کاردیولوژی ،مراقبت های پرستاری ،آموزش به بیمار





### inotropes when and which

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The general principle that applies for the use of inotropes is to use them for the shortest amount of time possible and in the lower effective dose until the therapeutic goal of hemodynamics stabilization (maintaining adequate BP and CO) and restoration of vital organ perfusion and function is achieved.

The types of AHF patients that usually receive inotropic support fall into two broad categories: those that present with cardiogenic shock and those with low BP and signs of hypoperfusion that do not present with overt cardiogenic shock.







### Fantastic four in heart failure treatment.

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Heart failure with reduced ejection fraction (HFrEF) requires a treatment with combination of several drugs as the cornerstone for symptomatic and prognostic improvement in all patients.

Recently, the sodium-glucose co-transporter 2 (SGLT2) inhibitors showed a highly significant and clinically relevant reduction in mortality and heart failure hospitalizations, and improvement of quality of life when added to current standard drugs in patients with HFrEF. Importantly, outcomes were ameliorated to a similar extent in patients with and without diabetes. The benefit of SGLT2i are consistent regardless of diabetes status, and comprehensive disease-modifying therapy (angiotensin-receptor neprilysin inhibitor [ARNI], beta-blocker, mineralocorticoid receptor antagonist [MRA]).

EMPEROR-Reduced included a detailed analysis of the influence of ARNI pre-treatment on the effects of SGLT2 inhibition with empagliflozin in patients with HFrEF. The remarkable reduction of the primary endpoint (cardiovascular death or first heart failure hospitalization) and secondary endpoint of total heart failure hospitalizations was similar in patients with and without ARNI at baseline. Also, the secondary renal endpoint was markedly reduced in patients treated both with and without sacubitril/valsartan. The additive effect of SGLT2 inhibition on top of an already optimized background triple neurohormonal blockade including an ARNI is supported by DAPA-HF that beneficial effect of dapagliflozin was also consistent in patients on a betablocker, MRA, and ARNI.

The estimated cumulative effect of these 4 medications includes a 73% relative reduction in mortality over 2 years. Thus, patients without contraindications appear to gain most benefit from combined treatment with the 'fantastic four': an ARNI, a beta-blocker, an MRA, and an SGLT2 inhibitor. this four-drug strategy in HFrEF patient provides an additional gain of free from cardiovascular death or first heart failure hospitalization.





### The Impact of Heart Failure on the Dimensions of Patients' Life

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### Introduction

Heart failure, as a progressive and debilitating clinical syndrome, can significantly affect various dimensions of life and lifestyle of affected individuals. This change is accompanied by numerous challenges for patients.

### Method

The present narrative review was conducted by searching databases including Scopus, Web of Science, CINAHL, SID, and Magiran within the timeframe of 2015 to 2022. The study followed the PRISMA guidelines and employed the PICOT search strategy with keywords such as Heart failure, Lived experience, Quality of life, life, and by combining all of their possible variations in both Persian and English languages.

### Results

Based on the findings from the reviewed literature, heart failure impacts the dimensions of patients' lives in four aspects: physical, emotional, social, and economic. It leads to reduced physical activity, increased dependence on caregivers for daily activities, higher rates of hospitalization and longer hospital stays, the necessity of using life-supporting medications and equipment, progressive failure of other vital organs, and various psychological disorders such as depression, anxiety, pessimism, and suspicion, as well as sleep disturbances, diminished social relationships, job loss, and the inability to afford medical expenses, which all affect the dimensions and lifestyle of the patients and their families.

### Conclusion

In general, living with heart failure entails numerous challenges that require diverse strategies for management and improvement. Nurses, by relying on therapeutic and rehabilitation skills, can play a significant role in preventing the exacerbation of disease symptoms and focusing on the recovery of these patients. Therefore, it is necessary to empower nurses by employing up-to-date guidelines and implementing nursing interventions to enhance the lifestyle and quality of life of heart failure patients in non-hospital settings.





### **Investigation of the Risk factors of Heart Failure**

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### Introduction

Heart failure is a prevalent chronic condition and one of the most common cardiovascular diseases. It occurs when the heart fails to pump effectively, resulting in inadequate blood flow to the body's organs. Over the past decades, heart failure has emerged as a leading cause of hospitalization and mortality. Understanding the underlying factors contributing to heart failure is crucial in preventing the associated mortality and disability. Therefore, present review study aims to investigate and identify the Risk factors involved in the development of heart failure.

### Method

This study is a narrative review that involved searching articles using specific keywords such as Heart failure, Risk factors, Epidemiology, Chronic heart diseases, and their Persian equivalents in databases like Scopus, Web of Science, SID and Magiran. The search was conducted using the PICOT search strategy within the timeframe of 2015 to 2022.

### Results

The first factor under examination is the history of previous heart diseases. Individuals with a history of heart conditions such as angina, cardiac arrhythmia, prior heart attacks, or irreversible heart surgeries are at a higher risk of developing heart failure. Additionally, high blood pressure is among the influential factors in the development of heart failure, as it can lead to damage in blood vessels and the heart itself. Other chronic diseases, such as chronic lung diseases, kidney diseases, diabetes, obesity, and respiratory diseases, can also contribute to heart failure by directly or indirectly impacting the heart's function

### Conclusion

In summary, heart failure development involves a combination of various factors, including previous heart diseases, high blood pressure, chronic diseases, environmental factors, and an unhealthy lifestyle. Understanding these factors and taking appropriate preventive and management measures can help reduce the risk of heart failure.





### **Myocardial protection in heart transplantation**

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Despite improvements of mechanical circulatory support in recent years, heart transplantation remains the approach most likely to improve survival and quality of life in patients with endstage heart failure. Myocardial protection is integral to the functioning hearts in day to day cardiac surgery. Heart transplantation is a cardiac procedure with longest ischemic time .There are many different strategies employed to ensure diligent and judicious myocardial protection during donor management transportation of the heart and post-operative period. The standard technique of heart preservation is achieved by infusing cold crystalloid solution before donor heart harvesting fallowed by static cold storage in a crystalloid preservation solution.167 heart preservation solutions were used for heart transplantation in the USA .At present the custodial -histidine-tryptophan-ketoglutartate(HTK) solution ,University of Wisconsin (UW) solution and Celsior solution are most commonly used for heart preservation. Comparision between the different cardioplegic solutions are difficult to explorate due to the lack of direct comparison. Hypothermia is crucial .Generally acceptable time for cold preservation is about 4 hours. International Society of Heart and Lung Transplantation data suggesting that ischemic times >6 h associated with primary graft dysfunction. To overcome this limitation and due to marginal donors, a near cold blood continuous perfusion system (Transmedics, Organ Care System) was recently developed to reduce the ischemic time and reperfusion injury. The result of PROCEED II study were consistent with no inferiority of OCS vs standard of care.OCS remains an interesting prospect that allows transport and working assessment of the heart prior to transplantation. The role of ischemic pre and post - conditioning remain uncertain in the the field of cardiac transplantation. A summation of myocardial protection protection strategies may be the way forward.





### Healthy Lifestyle After Organ Transplant

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زمانی تصور می شد که بقای بیمار پس از پیوند معیار موفقیت پیوند است. امروزه مسائل مربوط به کیفیت زندگی به همان اندازه مهم تلقی می شود. هدف تغییرات سبک زندگی افزایش کیفیت زندگی پس از پیوند است. سبک زندگی به عادت ها و باورهای افراد بستگی دارد. بنا به تعریف سازمان جهانی بهداشت سبک زندگی الگوهای مشخص و قابل تغییر رفتار است که از تعامل بین ویژگی های شخصی، . بر هم کنش اجتماعی، شرایط محیطی و موقعیت های اجتماعی- اقتصادی حاصل می شود

گیرنده پیوند باید در ۳ تا ۶ ماه اول پس از پیوند، خود را با زندگی و شرایط جدید هماهنگ سازد. در این ماه ها ترس از عفونت، طرد شدن و عوارض دارو به آرامي از بين مي رود. پس از هيجان اوليه انجام جراحي در اين مرحله متوجه ضرورت پايش مادام العمر، مراقبت از بدن و حفظ تناسب اندام و تغییرات احتمالی د<mark>ر حرفه یا فعالیت</mark> های روزمره زندگی خواهد <mark>شد. گیرندهٔ</mark> پیوند قلب باید احساس قدرت کند و در مراقبت خود به صورت موثري مشاركت نمايد. بيمار و خانوداه بايد تغييرات زيادي را بيذيرند. زندگي جديد پس از پيوند مسئوليت ها و چالش های جدیدی را برای بیمار و <mark>خانواده ایجاد خوا</mark>هد کرد از جمله پایش روزانه <mark>وزن ، دما، نبض، ف</mark>شار خون، قند خون و … ، پیروی از دستورالعمل ها برای جلوگیری از عف<mark>ونت، حض</mark>ور ج<mark>هت</mark> ویزیت ها و آزمایشات، رعای<mark>ت د</mark>ستور<mark>العمل های</mark> تغذیه ای، ورزش منظم، شرکت در برنامه های فیزیوتراپی و بازتوانی <mark>و مصرف</mark> منظم دارو<mark>ها</mark>

در این سخنرانی به نکات ضروری در را<mark>بطه با تغذی</mark>ه، فعالیت فیزیکی، رابطهٔ جنسی و بارداری، مصرف داروها، پیشگیری از سرطان، مراقبت از دهان و دندان و علائم هشدار می پردازیم







### Two decades research in Iron deficiency and heart failure

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Iron is essential for several metabolic processes including erythropoiesis, oxygen transport, mitochondrial function, immune and nervous systems, myocardial and skeletal muscle metabolism, lipid metabolism and inflammatory response.

Iron deficiency (ID) is common in heart failure (HF) affecting about 50% of patients regardless of ejection fraction. It is associated with reduced quality of life, exercise capacity and physical well-being.

Even in the absence of anemia, ID has association with hospitalization and mortality in heart failure patients.

Although randomized controlled trials did not support the use of oral iron for ID in heart failure, but intravenous ferric carboxymaltose (FCM) reduces hospitalization, improves symptoms, functional capacity and quality of life in stable HFrEF (Heart failure with reduced ejection fraction) patients with ID and also in decompensated HF patients with the EF<50%.

Due to prognostic importance of ID in HF patients, the 2021 ESC guidelines on HF provide a Class I, level of evidence C, recommendation for periodical screening of anemia and ID with a full blood count, TSAT and serum ferritin concentration. There is also a Class IIa, level of evidence A, recommendation for FCM administration in symptomatic HF patients with EF <45% for improving exercise capacity and quality of life and alleviating patients' symptoms. A Class IIa, level of evidence B, was also recommended for FCM in HF patients recently hospitalized for HF and EF <50% to reduce the risk of HF hospitalization. Only FCM is recommended for the treatment of ID in HF based on recent guidelines since no large randomized trial has shown the efficacy with other IV iron supplements in HF patients and ID regardless of anemia.





### **Medicinal Plants for Atherosclerosis**

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Atherosclerosis is an inflammatory disease and is one of the most prevalent reasons for premature death in adults. More than 30% of patients with coronary artery disease use complementary and alternative medicines for management of this disorders. Some medicinal plants and plat-derived compounds have been clinically investigated in atherosclerosis and demonstrated promising effects. Among them, it could be implied to garlic, red orange, Ginkgo biloba, olive, flaxseed, cocoa, and concord grape. They exhibit their beneficial effects in atherosclerosis by affecting different factors including metabolic, vascular, thrombotic, inflammatory, anthropometric, and antioxidant indices as well as blood pressure. Although herbal medicine may possess some positive effects on cardiovascular disease, they have the potential to interact with conventional drugs particularly antiplatelets and anticoagulants, calcium channel blockers, antihypertensives, and antiarrhythmics. So, using medicinal herbs in patients with cardiovascular disease should be done under supervision of physicians and pharmacists that are expert in the field of natural products.





### **Pericardial Disease in malignancy**

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Pericardial disease is highly prevalent in patients with malignancy. Including: Acute pericarditis, Pericardial effusions, tamponade, Constrictive pericarditis and Pericardial tumors.

keep in mind the most common etiologies of pericardial diseases in malignancy and evaluate step by step:

Anticancer drugs: Checkpoint inhibitors (nivolumab and ipilimumab), Docetaxel, Dasatinib, Anthracyclines, cyclophosphamide.

- Radiation therapy
- Metastasis (breast, lung, Hodgkin lymphoma, mesothelioma, melanoma)

Primary tumor of the heart (rhabdomyosarcomas, fibromas, lipomas, angiomas, leiomyomas, teratomas)

Virtually any tumor can cause pericardial effusion. As re-accumulation is seen in up to 60% of patients with malignant effusions, patients must be closely monitored if they receive a pericardiocentesis alone. Strategies to prevent re-accumulation include continued catheter drainage, sclerosis, and formation of a pericardial window.

Sclerosing agents: mitomycin, tetracycline, bleomycin, cisplatin, carboplatin (concern the risk of constrictive pericarditis).

12% of patients with no known malignancy presenting with acute pericarditis with or without pericardial effusion will subsequently be diagnosed with cancer within 5 years.

In oncology patients, constrictive pericarditis(CP) may be secondary to a fibrotic pericardium following radiation treatment, typically seen >20 years post-treatment. Radiation adjacent to the heart is widely used for mediastinal lymphoma, esophageal, breast, and lung cancer. Studies have described poor survival following pericardiectomy in patients suffering from radiation-induced CP with a 5-year survival reaching only 11% compared to 80% in idiopathic cases. As radiation may also cause accelerated coronary artery disease, an ischemic workup may be warranted.

Diagnostic tools of pericardial diseases: Echocardiography, CT scan and Cardiac MRI.





### SGLT2 Inhibitors: Pros & Cons

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### SODIUM-GLUCOSE CO-TRANSPORTER 2 INHIBITORS Mechanisms:

Promote osmotic diuresis and natriuresis in patients with and without diabetes, and thus may reduce preload.

- Vascular effects
- May improve myocardial metabolism and thus improve cardiac efficiency.
- Reduce cardiac fibrosis

Beneficial effects on renal function may contribute to improved outcomes in patients with HF

Reduce the risk of atrial arrhythmias by mechanisms that may include reductions in atrial dilation, inflammation, oxidative stress, and sympathetic overdrive

In a secondary analysis of the EMPA-TROPISM study: significant reductions in epicardial adipose tissue, subcutaneous adipose tissue, interstitial myocardial fibrosis, aortic stiffness, and inflammatory biomarkers.

DAPA-HF and EMPEROR-Reduced trials, SGLT2i compared with placebo reduced the composite of cardiovascular death or HF hospitalization by approximately 25%

EMPEROR-Preserved (Empagliflozin Outcome Trial in Patients with Chronic Heart Failure with Preserved Ejection Fraction):

The 21% reduction in the primary composite endpoint of time to HF hospitalization or cardiovascular death

Significant 29% reduction in time to HF hospitalization (nonsignificant lower cardiovascular death [HR, 0.91; 95% CI, 0.76-1.0])

- No benefit on all-cause mortality.
- v Take Home Messeges:

v GDMT for HF with HFrEF now includes 4 medication classes that include sodium-glucose cotransporter-2 inhibitors (SGLT2i).



v SGLT2i have a Class of Recommendation 2a in HF with mildly reduced ejection fraction (HFmrEF).

v New recommendations for HFpEF are made for SGLT2i (Class of Recommendation 2a)

v Multiple RCTs: patients with diabetes and CVD without HF have improved survival and reduced HF hospitalizations with SGLT2i.







### LA strain, a mathematical fantasy or clinical guide

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نزدیک به دو دهه است که در تصویربرداری قلب مطرح شده است و با پیشرفت تکنولوژی و افزایش مطالعات، روز به روز strain مفهوم از یک مفهوم انتزاعی به یک شاخصه مهم جهت تصمیم گیریهای بالینی تبدیل گردیده است. این مفاهیم ابتدائا جهت بطن چپ مطرح . شدند و به سرعت کاربردهای بالینی متعدد در کاردیوانکولوژی، ایسکمی، استرس اکوکاردیوگرافی و بیماریهای دریچه ای ییدا نمود

.بر روی سایر حفرات از جمله دهلیز چپ ادامه یافت strain مطالعات

:شامل سه فاز می گردد strainد, دهلیز چ**پ،** 

می گردد و راه LA فاز اول بین بست<mark>ه شدن دریچ</mark>ه میترال و باز شدن مجدد آن است که با توجه به اینکه در این فاز صرفا خون وارد )مخزن( نام گرفته است. طبیعتا <mark>چون در این فاز، دهلیز چپ و طبیعتا جدار آن، در حال reservoir خروج آن بسته است، به نام</mark> فاز .به صورت موجى مثبت ثبت مى گرددStrain افزايش طول مى باشد،

فاز دوم فاز تخلیه دهلیز به بط<mark>ن، قبل از ا</mark>نقباض <mark>فعال د</mark>هلیز است. با توج<mark>ه به ای</mark>نکه در <mark>این فاز، د</mark>هلیز به صورت یک کانال خون را از .نامیده می شودConduit phase ها به بطن منتقل می نماید، PV

، انقباض فعال دهلیز صورت می گیر<mark>د و دهلیز به ط</mark>ور فعال خون خود را به داخل بطن تخلیه می <sup>P</sup>نهایتا در فاز سوم به دنبال موج المگذاری شده استcontraction phase نماید که با توجه به انقباض دهلیزی،

.آن را نیز تغییر می دهندStrain را تحت تاثیر قرار می دهند، LA طبیعتا بیماریهایی که

با این استدلال به طور اختصاصی مطالعات فراوانی بر روی اختلالات دیاستولی انجام شد و ملاحظه شد که با پیشرفت اختلال دیاستولی، multimodalityکاهش می یابد. همین امر باعث شد که در آخرین مقاله راجع به reservoir به خصوص در فازLA strain ، به خصوص در زمانی که سایر شاخص های کلاسیک، HFPEF، نقش یر رنگی در تعیین یلن بیماران imaging in HFPEF. داده شود LA strain بدهند، به LV filling pressure نتوانند تخمین درستی از

به دنبال recurrence و LA strain انجام شده است و در آن دیده شده بین میزان AF مطالعات دیگری بر روی بیماران مبتلا به ...و همچنین ریسک امبولی رابطه معکوسی وجود دارد ablation و cardioversion

روز به روز در حال افزایش است و طبیعتا به LA strain با پیشرفت تکنولوژی و فراگیر شدن دستگاه های پیشرفته اکو، اندازه گیری .نظر می رسد کاربردهای بالینی آن نیز در حال ازدیاد می باشد





### HFPEF, a diease of comorbidities

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Systemic hypertension: a model for HFpEF as a complex comorbidity-related disease

Hypertension and age are major risk factors for HFpEF.

However, while diastolic dysfunction and LV hypertrophy may lead to HF, a significant proportion of patients with HFpEF do not have evidence of LV hypertrophy or concentric remodelling on their echocardiogram, or have normal diastolic function. Conversely, many older adults have LV hypertrophy with pre clinical LV diastolic dysfunction, but do not have clinical evidence of HFpEF.

Being overweight/obese: a model for HFpEF as a distinct phenotype-related disease

Increased body mass index is a recognized risk factor for both types of HF; particularly for the development of HFpEF in association with hypertension, age and sex .

Obesity has been associated with LV hypertrophy and incipient LV dysfunction, and was reported in one third of the participants in the I-PRESERVE trial .Central obesity is a major determinant of arterial stiffness.

Kidney disorders: a model for HFpEF as a cause- or consequence-related disease

In patients with HFpEF, chronic kidney disease is independently associated with increased cardiac remodelling and significantly worse cardiac mechanics and outcome . Renal insufficiency causes systemic inflammation and oxidative stress.

However, fluid overload may be even more important than the presence of hyper-tension itself. Furthermore, in patients with chronic kidney disease, cardiovascular events are more likely in those with modest degrees of fluid overload, with or without concomitant hypertension.





Lifestyle and socioeconomic risk factors: a model for HFpEF as a behavioural disease

lifestyle risk factors, such as physical inactivity and obesity, play an important role in the development of HFpEF. Low fitness and physical inactivity, reflecting a sedentary lifestyle, are associated with many of the underlying cardiac and skeletal muscle abnormalities often present in HFpEF.







### cancer-associated thrombosis and embolism

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The relationship between malignancy and a clinical hypercoagulable state has been extensively studied and remains an important public health issue for patients with cancer.

Even today, patients with active malignancy remain at high risk of thromboembolic events, including both venous thromboembolism (VTE) and arterial thromboembolism (ATE).

However, in patients with cancer, thromboembolism, including both VTE and ATE, is the second-leading cause of death after cancer, and the occurrence of thromboembolism can interrupt or delay essential cancer treatments.

VTE rates in patients with cancer are about 4- to 7-fold higher compared to healthy individuals and appear to be increasing over recent years because of improved patient survival, more thrombogenic cancer treatments, extensive use of central catheters, and a better awareness of cancer-associated thrombosis (CAT).

The last few years have led to a paradigm shift in both the prevention and treatment of CAT.

Emerging data demonstrate benefit to patients with direct oral anticoagulants (DOACs).

Large studies focused on cancer populations have been completed for both primary and secondary prevention of thromboembolism.

Guidelines from different societies, including (ASCO),(ISTH), (ESMO),(ASH), have recently modified the recommended approach for both primary prevention and treatment.

In this presentation, we evaluate these data in the risk assessment, prevention, and treatment of CAT, both venous and arterial.





### **MANAGEMENT OF HFpEF**

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Management of HFpEF focuses on:

1) risk stratification and management of comorbidities, including hypertension, DM, obesity, AF, CAD, CKD, and obstructive sleep apnea;

2) nonpharmacological management, including the role of exercise and weight loss and the use of wireless, implantable pulmonary artery monitors.

3)symptom management and disease-modifying therapy with loop diuretic agents, SGLT2is, mineralocorticoid antagonists (MRAs), angiotensin receptor-neprilysin inhibitors (ARNIs), and angiotensin receptor blockers (ARBs).

Historically, medical therapy for HFpEF resulted in a discouraging array of negative trials with no demonstrated benefit in HFpEF, including trials of perindopril, irbesartan, betablockers, nitrates, digoxin, ivabradine, sildenafil, and serelaxin.

However, recent clinical trials have demonstrated the benefit of GDMT in individuals with HFpEF, and initiation of key agents is essential to improve symptoms and functional capacity and

reduce the morbidity and mortality associated with HF(table2)

Initiation of GDMT is safe and effective in both acute and chronic-care settings

Therefore, SGLT2i should be initiated in all individuals with HFpEF lacking contraindications

meta-analysis also suggests reduction in cardiovascular death with SGLT2is in individuals with HFmrEF/HFpEF.

Spironolactone may reduce the risk of hospitalizations for HF in specific subsets of individuals with HFpEF;

Sacubitril/valsartan provides modest additional benefit compared with valsartan in individuals with HFpEF. Although serum creatinine elevations and hyperkalemia occur less frequently with ARNI therapy, hypotension and angioedema, albeit

rare, occur more frequently with ARNIs.





# مروری بر بیماری نارسایی قلبی ناشی از فشار خون بالا و چالش های پیشرو در مدیریت و درمان آن

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چکیدہ

سابقه و هدف: قرار گرفتن طولانی مدت در معرض فشار خون بالا منجر به مجموعه ای از عوارض مستقیم و غیر مستقیم شامل نارسایی سیستولیک یا دیاستولیک قلب، آریتمی هدایتی و افزایش خطر بیماری عروق کرونر می شود که تحت عنوان بیماری قلبی ناشی از فشار توصيف مي شود. تخمين زده شده است كه شيوع اين بيماري از سال ۱۹۹۰ تا سال (Hypertensive heart disease) خون بالا ۲۰۱۷ تقریباً ۲ برابر شده و با خطر مرگ و میر قابل توجهی همراه بوده است. بنابراین و با توجه به اینکه بیشتر افراد از وضعیت فشار خون خود آگاه نیستند، بیماری قلبی ناشی از <mark>فشار خون</mark> بالا یک چالش مهم بهداشتی است که باید مورد توجه عمومی قرار گیرد. لذا .هدف از این مطالعه مروری بر این بیماری و <mark>چالش های</mark> پ<mark>یشرو</mark> در مدیری<mark>ت و د</mark>رمان آن بود

روش کار: این مطالعه به روش مرور حیطه ای انج<mark>ام ش</mark>ده است که طی آن مطالعات مرتبط با موضوع از پایگاه های اطلاعاتی معتبر نظیر بین سال های ۲۰۱۹-۲۰۲۳ استخراج و بر اساس روش , Google scholar, Pubmed, Ovid, science direct ISI . مورد بررسی قرار گرفته است Arksey و O'Malley شناختی

یافته ها: بررسی مطالعات نشان داد فشار <mark>خون بالا به ع</mark>نوان یک عامل خطر مستقل <mark>در نارسایی ق</mark>لبی قابل پیشبینی است. اما درمان آن در بیماران مبتلا به نارسایی قلبی بسیار پیچیده ا<mark>ست. مطالعات نشان دادند رابطه بین فشار خو</mark>ن و پیش آگهی نارسایی قلبی لزوما همیشه توصيف مي شود. اين مسئله مديريت درمان را در هر بيمار با توجه به مرحله و شدت بيماري J خطي نيست و معمولًا به صورت منحنی . و وجود یا عدم وجود نارسایی قلبی دگرگون می سازد

نتيجه گيري: با توجه به قابل كنترل بودن اين بيماري، مهمترين مسئله پيشگيري از توسعه نارسايي قلبي مي باشد كه باكاهش هايپر تروفی بطن چپ و کاهش خطر ابتلا به نارسایی قلبی همراه است. کنترل فشار خون برای بیماران مبتلا به فشار خون بالا که در معرض محدوده بهینه ای که باید در آن فشار خون  ${f J}$  خطر نارسایی قلبی هستند توصیه می شود. با این حال، با توجه به وجود رابطه منحنی . کنترل شود و مزایای کنترل شدید فشار خون در بیماران مبتلا به نارسایی قلبی بحث برانگیز است

كلمات كليدى: نارسايي قلبي فشار خون بالا بيماري قلبي ناشي از فشار خون بالا





### First 24 hours nursing care after heart transplantation

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Heart transplantation remains the definitive treatment of advanced heart failure, and survival and quality of life followingHeart transplantation are excellent. The use of extended donor criteria, procurement of hearts in donation after circulatory death, and transplantation with the use of novel organ preservation techniques will possibly increase the number of organs available. Patients who present for a heart transplant or placement of a ventricular assist device (either as a "bridge" to transplant or "destination" therapy) are universally in heart failure. half of the heart transplantation recipients are on mechanical circulatory support, usually a left ventricular device, by the time of Heart transplantation, which augments the risk of bleeding, renal failure, and graft failure in the immediate postoperative period.

If post-transplant complications are not recognized and treated promptly they might have an important negative impact on outcome. Therefore, careful monitoring and knowledge of caring for graft failure and complications following are essential for successful Heart transplantation. these caring is divided to: Immediate post-operative care, Post-cardiac surgery bleeding, Post-cardiac surgery arrhythmias, Tamponade, Right ventricular failure, Renal function, Organ rejection, Infection.







### Cardiomyopathy induced by performance enhancement drugs

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Perhaps the most important message for practitioners is to be alert to the potential for PED use, It could be argued that the biggest threat in the fight against drugs in sports is not what we know, but what we do not know.

PEDs may facilitate greater exercise capacity and indirectly increase athletic cardiac remodeling

one study reporting that 56 percent of users had never told their physiciann about their use

This could be because users feel their physician lacks knowledge about PEDs .

Anabolic androgenic steroids (AAS) are the main class of doping agents.

AAS use and misuse is an important potensial cause of DCMP

The most typical cardiac abnormality in AAS abusers is left ventricular hypertrophy, associated with fibrosis and myocytolysis

The mainstay of treatment involves abstinence from offending agent ,as well as initiation of HF GDMT.

The most dangerous of the withdrawal symptoms is depression, because it sometimes leads to suicide attempts, therefore we should not discontinue the drug abruptly.

Presenting both the risks and benefits of anabolic steroid use is more effective in convincing adolescents about steroids' negative effects, apparently because the students find a balanced approach more credible





### effect of exercise on cardiovascular system

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Regular exercise or occupational physical activity has been shown to reduce the risk of CVD by one-third to one-half .Ex reduce the all cause mortality and/or CV mortality at least by 16%.

This is true not only in healthy subjects without any risk factors, but also in those with CV risk factors/CVD (that will benefit more).

In healthy individuals, a longer and more intense Ex protocol is needed to induce measureable changes in CV parameters, while older and sicker subjects can benefit from less intense Ex. for example an Ex regimen that improves endothelial function in diabetic patients fails to benefit healthy subjects.

The scientific societies (ACC/AHA), for the primary and secondary CV prevention, highly recommend to practice at least 150 min/week of moderate-intensity aerobic physical activity, or 75 min/week of high-intensity activity to reduce the risk of CV events and mortality.

observational studies reported an inverse dose-response relation between physical activity and CV events and all-cause mortality; where a minimum of one hour walking per week (and possibly less) has protective effect.





### باز توانی روانشناسی و پیشگیری از انزوای اجتماعی در بیماران دچار نارسایی قلبی

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ارتباط بین سلامت روانشناختی و بیماریهای قلبی ¬عروقی پیچیده است و این ارتباط می¬تواند به صورت مستقیم )تاثیر بر سیستم ایمنی بدن( و یا غیر مستقیم )تاثیر بر رفتار( باشد )والی، تامپسون و تیلور، ۲۰۱۴(. بسیاری از افراد مبتلا به مشکلات قلبی¬عروقی دامنه وسیعی از درمان¬های روانشناختی را به منظور کاهش افسردگی، اضطراب، استرس و یا رفتارهای ناسازگار )مانند مصرف سیگار و الکل( دریافت می¬کنند که این امر می¬تواند به سلامت روانشناختی و قلبی¬عروقی افراد کمک نماید )والی، تامپسون و تیلور، ۲۰۱۴

بیماران اغلب به دنبال بیماری عروق کرونر مشکلات متعددی مانند درد، اضطراب، افسردگی، تظاهرات روانی شدید، از بین رفتن امنیت کاری، کاهش فعالیت¬های تفریحی، اختلال در روابط بین¬فردی، اختلال در ایفای نقش¬های خانوادگی و در نتیجه سازگاری غیر مؤثر یا بیماری را تجربه می¬کنند )مومنی، رضایی و معینی، ۱۳۹۲؛ زویدرسما، تامبز و دی جانگ، ۲۰۱۱؛ هافمن، آدامز و کلانو، ۲۰۱۸

هر کدام از این پیامدها سبب وخام<mark>ت بیشتر و</mark>ضعی<mark>ت ج</mark>سمی و روانی فرد می⊂شود که پیامد آن ناتوانی در همه عرصه¬های زیستی-روانی و اجتماعی خواهد بود )داهال، منون و جیسوریا، ۲۰۱۷(. عوامل متعددی نظیر اضطراب و افسردگی، استرس¬ های اجتماعی، تعارض و رفتار خصمانه می¬توانند به انقباض نابهنجار کرونری، افزایش انسداد شریان کرونری، بی¬نظمی¬های بدخیم ضربان قلب و .درنتیجه به ناتوانی قلب منجر شوند )چیدا و استپتو، ۲۰۰۹

# 2023

چگونگی جلوگیری از انزوای اجتماعی در بیماران قلبی – عروقی

انجام فعالیت های روتین زندگی، اجتناب از ممانعت از انجام کارها توسط اطرافیان، فعالیت فیزیکی مداوم و مستمر با در نظر گرفتن محدودیت های فیزیکی، اجتناب از ایجاد انگ بیماری و انگ زدایی، اصلاح شیوه زندگی، حمایت روحی و روانی و خانوادگی، افزایش دادن اعتماد به نفس، برگزاری جلسات گروه درمانی، آموزش خودمراقبتی و اجتناب از مصرف مواد، کارگاه های مهارت آموزی، ریلکسیشن یا آرام سازی عضلانی، راهبردهای شناختی رفتاری، تکنیک حل مسئله، راهبردهای مقابله، مداخلات مبتنی بر کنترل استرس با هدف کاهش استرس به خودی خود و یا کاهش مشکلات در بیماران با مشکلات قلبی





### Management of hyperlipidemia

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Hyperlipidemia is a disorder of lipid metabolism that results in elevated levels of lipids in the blood. It is influenced by both genetic and environmental factors, such as diet, lifestyle, medical conditions, or medications. Hyperlipidemia is a major risk factor for cardiovascular diseases, such as coronary heart disease and stroke, which are leading causes of death and disability worldwide. Complementary medicine (CM) is a diverse group of healthcare practices that are not part of the conventional medical system but are used alongside or in addition to it. Some examples of CM include herbal medicine, acupuncture, yoga, meditation, and traditional medicine. CM is often sought by patients who are dissatisfied with the side effects, costs, or effectiveness of conventional medicine, or who prefer a more holistic and natural approach to health care. The main argument of this essay is that CM can be useful in the management of hyperlipidemia by providing safe, effective, and affordable alternatives or adjuncts to conventional pharmacological treatments. This essay reviews the evidence and mechanisms of how different types of CM, such as dietary fiber, soy protein, plant stanols and sterols, and lifestyle interventions, can modulate lipid levels, gene expression, inflammation, and other factors related to hyperlipidemia. It also discusses the potential role of CM in addressing the preventable and controllable causes of hyperlipidemia, such as diet, physical activity, obesity, stress, insulin resistance, glucose intolerance, blood pressure, and metabolic syndrome. The essay concludes that CM can be a useful complement to conventional medicine in the management of hyperlipidemia, but more research is needed to determine the optimal doses, forms, combinations, durations, and outcomes of CM therapies for different populations and settings.





### How to Prepare Results Section for a scientific Article based on IMRaD Style

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Three approaches including text, table, and diagram are used in writing the result part.

Useful Tips:

• Be familiar with some software (for data analysis, creating graphs, making schematic figures, or taking help)Write a result for each method part.

• Sometimes you can use the tables and graphs printed in other articles to present the results of your study. For this purpose, use the graph or pictures of another study according to the copyright

• Psychometrica can be used to convert effect sizes and obtain standardized effect sizes for your results

• SAMPL Guideline and https://www.equator-network.org/ website (Enhancing the QUAlity and Transparency Of health Research) can be used to standardize the presented results.

• Summarize data that are approximately normally distributed with means and standard deviations (SD). Use the form: mean (SD), not mean  $\pm$  SD, according to SAMPLE

• For the data that are not normally distributed with medians and inter-percentile ranges, ranges, or both.

• Do NOT use the standard error of the mean (SE) to indicate the variability of a data set. Use standard deviations, inter-percentile ranges, or ranges, and a confidence interval of 95%.

• Don't forget to report the negative results.

• Use the proper graphs, suitable software, Proper Tables (by enough columns and rows), and Organize Tables (1, 2, 3).





Follow the limitation of the number of tables and graphs Use proper pictures and figures

- Prepare informative schematic figures
- Write a good title for each table and figures
- Explain each figure

Put Mean (SEM, SD) for quantitative data in the tables, and an error bar for figures if it is required.

For the P value, two decimal places are enough in most cases, and in cases less than .001, it should be mentioned as <0.001. avoid NS.

- For decimal of ES, follow 4-roule
- Table and Figures should be informative enough







### Identification and prevention of infection and rejection

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Heart transplantation are became a standard therapeutic option for life-threatening congestive failure and be performed in the hundreds over at different centers. Heart transplant surgery faced complications due in part to rejection and infection. However, the development of more selective immunosuppressive therapy and improvements in prevention, detection, and treatment of infections allowed for heart transplant surgery to increase rapidly worldwide.

The successful prevention of infection in the solid organ transplant recipients requires developing a strict preventive strategy.

In this lecture focuses on infection risk factors, sites and types of infection, pre-transplant evaluation of recipients and donors, prevention of infections, prophylaxis in heart transplantation recipients.

Our objective is promotion of recognition and nursing care for prevention and control infections to improve transplantation outcome.





### Management of Acute Right Ventricular Failure

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Right ventricular (RV) failure occurs when the RV fails to maintain enough blood flow through the pulmonary circulation to achieve adequate left ventricular filling. This can occur suddenly in a previously healthy heart due to massive pulmonary embolism or right-sided myocardial infarction, but many cases encountered in the intensive care unit involve worsening of compensated RV failure in the setting of chronic heart and lung disease. Management of RV failure is directed at optimizing right-sided filling pressures and reducing afterload. Due to a lower level of vascular tone, vasoactive medications have less salient effects on reducing vascular resistance in the pulmonary than in the systemic circulation. Successful management requires reversal of any conditions that heighten pulmonary vascular tone and the use of selective pulmonary vasodilators at doses that do not induce systemic hypotension or worsening of oxygenation. Systemic systolic arterial pressure should be kept close to RV systolic pressure to maintain RV perfusion. When these efforts fail, the judicious use of inotropic agents may help improve RV contractility enough to maintain cardiac output. Extracorporeal life support is increasingly being used to support patients with acute RV failure who fail to respond to medical management while the underlying cause of their RV failure is addressed.







### The role of Artificial Intelligence in Data Analysis in Heart Failure: The newly-developed methods and algorithms

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Artificial intelligence is (AI) the ability to make machines learn to solve problems require a huge human effort. Machine learning (ML) is a sub-field of AI. This method uses computer algorithms to extract trends and patterns from big data, acquire knowledge without input, and apply this knowledge for different issues. This process is called data mining. Traditional statistical models had a limited ability to handle big data because they have a low signal-tonoise ratio. ML algorithms can handle big data and relies on fewer assumptions. Moreover, ML does not require predictors or interactions to be pre-specified by human. Supervised ML applies labelled data to learn the underlying patterns in model training step. Whereas unsupervised ML algorithms are exploratory and discover patterns without human-labelled data. Deep learning (DL) is a subset of ML that utilizes multiple layers of artificial neural networks for pattern identification and prediction.

Heart failure (HF) is one of the most common causes of hospitalization among elderly which is challenging in diagnosis, management, and risk prediction. HF management could be one of the most expensive healthcare conditions in most countries. Addition to HF diagnosis, classification, and prognosis, ML and DL algorithms can be applied in HF pattern recognition.

AI use leads transparency in medical researches to provide better health via patient's selection for more validated medical and device therapies. Development of novel ML and DL algorithms will positively influence HF care and outcomes over time.





### ECMO In Heart Failure Patients: Indications and Patient Selection

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ECMO indications divided in two types: 1- cardiac failures and 2- respiratory failures. In cardiac failure, typically using with VA ECMO (Veno Arterial) for support the patient. In this approach, the blood is drained through vein, oxygenated and reinfused back into artery. In other hand VA ECMO support the myocardial dysfunction. In the heart failure patients common goals and objectives of ECMO is the bridge to recovery or heart transplantation, bridge to bridge or decision making.

Bridge to recovery: for temporary, circulation support while definitive and supportive treatment strategies are deployed to restore myocardial recovery and achieve successful weaning.

Bridge to decision: To determine the reversibility of end-organ damage commonly seen after a catastrophic or critical myocardial event or to decide the next level of action.

Bridge to bridge: to achieve a brief stability for end-organ perfusion until more definitive pump support(durable mechanical circulatory support) or cardiac replacement therapy(heart transplant or total artificial heart) is performed.

Bridge to transplant: to achieve a brief stability for end-organ perfusion until cardiac transplantation is performed.

In this lecture we also explain some specific criteria for patient selecting to ECMO.



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### 24 hours before transplantation care

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Cardiac transplant is a surgical procedure to remove a diseased heart and replace it with a healthy heart donor. Several diseases and conditions may cause heart failure resulting in the need for heart transplantation. Some these conditions includes: Congenital heart defects, Ischemic Cardiomyopathy, Non-ischemic, Post-partum Cardiomyopathy, Malignant Arrhythmias cause sudden cardiac death and Intractable Angina. Treatment team includes: Transplant Cardiologist, Transplant Surgeon, Infectious Disease Physician, Heart Transplant Coordinator, Ventricular Assist Device Coordinator, Social Worker/Psychologist, Transplant Pharmacist and Pharmacy Patient Assistance Coordinator. Patient process are: Referral Phase, Clinic Evaluation Phase, Candidacy Phase, Active Wait List Phase, Transplant Phase, Post-Transplant Phase and Financial Assistance. Diagnostic tests prior to transplantation includes: Echocardiogram, Right heart catheterization, Pulmonary function tests, Exercise treadmill test, Abdominal ultrasound, Chest x-rays, Coronary angiogram, Cardiac biopsy, Chromosome testing, Lab tests: chemistries, cbc, human leukocyte antigens)HLA) anti-body screening ,viral antibody screening HIV, Cytomegalovirus, herpes virus, varicella, epsteinbarr).





### Venous Thromboembolism in Heart Failure

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The results of studies are established the links between heart failure and venous thromboembolism (VTE). Patients with heart failure have multiple risk factors for VTE including stasis of blood in the legs and heart, hypercoagulability, and endothelial injury. Thromboprophylaxis of heart failure patients to prevent VTE during and after hospitalization is strongly suggested. The treatment of venous thrombosis is anticoagulant and thrombolytic therapy. Although thrombolytic and anticoagulant therapy is performed, complications are common among patients and affected the quality of life of their life. So, prevention of VTE in heart failure patients is of major importance. Nursing care included Implementing VTE risk assessment, mechanical and physical interventions such as graduated compressive elastic stockings and educating patients on VTE in addition to anticoagulants can effectively prevent VTE.







# نقش اکوکاردیوگرافی پیشرفته در ارزیابی عملکرد بطن راست و بکارگیری آن در معاینات بالینی

دکتر محمد خانی

دانشیار بیماری های قلب و عروق، بیمارستان شهید مدرس، دانشگاه علوم پزشکی شهید بهشتی، تهران، ایران

بطن راست نقش اساسی را در ارزیابی بالینی و تعیین عملکرد بیمار و پیش آگهی وی در حالات بالینی مختلف که سبب درگیری آن می شوند، ایفا می نماید.

بنابراین ارزیابی عملکرد آن باید بخش مهمی از هر ارزیاب<mark>ی اکوکاردیو گرافیک با</mark>شد.

با توجه به آناتومی پیجیده بطن راست که شامل سه قسمت اصلی inflow, apical, outflow می باشد، تکنیک های اکوکاردیوگرافی معمولی دارای محدودیت های زیادی در ارزیابی عملکرد آن می باشند.

در سالهای اخیر RV Strain Imaging به عنوان یک روش برتر اکوکاردیوگرافیک در ارزیابی عملکرد سیستولیک بطن راست به کار گرفته شده و توانسته بر خیلی از محدودیت های اکوکاردیوگرافی معمولی غلبه نماید.

RV Longitudinal Strain به دو روش Doppler Tissue Imaging و Speckle- Tracking مورد تایید Echocardiography قابل اندازه گیری می باشد و توسط مطالعات حیوانی و MRI در وضعیت های قلبی گوناگون مورد تایید قرار گرفته است.

برای غلبه بر محدودیت های اکوکاردیو گرافی معمولی امروزه می توان از اکوکاردیو گرافی سه بعدی ( 3D Echocardiography) استفاده نمود. با استفاده از آن می توان اجکشن فرکشن بطن راست محاسبه نموده که نتایج آن با نتایج حاصله از MRI قابل مقایسه است.





### Mitraclip in functional MR : Step by Step tips and tricks

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The MitraClip system is a device used for percutaneous edge-to-edge reconstruction of the mitral valve in patients with severe mitral regurgitation who are deemed at high risk for surgery. Echocardiography plays a crucial role in guiding the MitraClip procedure. In this presentation, we will discuss the echocardiography of the MitraClip procedure in secondary mitral regurgitation, step by step.

Step 1: Patient Selection

The first step in the MitraClip procedure is to assess the severity of mitral regurgitation. Patients with severe mitral regurgitation who are deemed at high risk for surgery are eligible for the procedure.

Step 2: Transthoracic Echocardiography (TTE)

TTE is used to determine the severity and mechanism of mitral regurgitation. It is also used to assess the left ventricular function and the presence of any associated valvular or structural heart disease.

Step 3: Transesophageal Echocardiography (TEE)

TEE is used to guide the MitraClip procedure. It is used to assess the mitral valve anatomy, the location and extent of the regurgitant jet, and the suitability of the valve for the MitraClip procedure. TEE is also used to guide the placement of the MitraClip device and to assess its effectiveness.

Step 4: Transseptal Puncture

The MitraClip procedure begins with transseptal puncture, which is performed under TEE guidance. The puncture is made through the interatrial septum to gain access to the left atrium.

Step 5: Advancement of the Steerable Guide Catheter (SGC)

The SGC is advanced into the left atrium under TEE guidance. The SGC is used to guide the MitraClip device to the mitral valve.

Step 6: Placement of the MitraClip Device

The MitraClip device is placed under TEE guidance. The device is guided to the mitral valve and positioned to clip the leaflets together, reducing the degree of mitral regurgitation.





Echocardiography plays a crucial role in guiding the MitraClip procedure. TTE and TEE are used to assess the severity and mechanism of mitral regurgitation, guide the placement of the MitraClip device, and assess its effectiveness. The step-by-step approach to echocardiography of the MitraClip procedure in secondary mitral regurgitation can help improve patient outcomes.







### Heart Transplantation, still evolving

### Seyed Mohsen Mirhosseini

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Here are some areas where heart transplantation has been evolving:

- 1. Organ Procurement:
- 2. Immunosuppression:
- 3. Organ Preservation and Transport: Techniques like ex vivo perfusion, where the donor heart is maintained in a machine that mimics the physiological conditions, are being developed to assess and optimize organ function before transplantation.
- 4. Organ Shortage: This has led to research on alternatives to traditional heart transplantation, such as xenotransplantation (transplantation from animals) and artificial hearts. Efforts have been made to expand the donor pool (Extended criteria donors), including utilizing hearts from donation after circulatory death donors.
- 5. Post-Transplant Care: Improved methods for monitoring rejection, such as endomyocardial biopsy and non-invasive imaging techniques like echocardiography and cardiac MRI, several non-invasive biomarkers have enhanced post-transplant care. Gene therapy for heart transplantation involves the use of genetic techniques to modify the genetic material (DNA) of cells in the heart or other tissues.
- 6. Multi-Organ Transplantation:
- 7. New indications for Mechanical Circulatory Support therapy and Heart **Transplantation are evolving**





# Joint 7th International Iranian Heart Failure Summit

Tehran 9-11 August 2023 Shahid Beheshti University Conference Center

# Abstracts





### Correlation between renal dysfunction and left ventricular hypertrophy in primary hypertensive patients

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### Introduction

Available data on the correlation between left ventricular hypertrophy and renal function in hypertensive patients are limited. The purpose of this study is to investigate the relationship between renal function, measured by the estimated glomerular filtration rate (eGFR), and left ventricular hypertrophy (LVH) in a population of hypertensive patients

### **Materials and Methods**

in this retrospective, cross-sectional, single center study carried out in Tehran, demographic, clinical and laboratory date of hypertensives were extracted from patient's reocrords. Renal function was evaluated using Cockcroft-Gault equation for eGFR. Based on the validated Perugia score, the diagnosis of LVH was confirmed. The association between LVH with renal dysfunction (eGFR < 60 ml/min/1.73 m2) and other factors was analysed using SPSS 18.

### Results

a total of 150 patients (mean age 50.39 years, 45.3% male) were included. Of these, 40.7% had established LVH and 12% had renal dysfunction. Renal dysfunction was associated with LVH, older age, lower Ejection Fraction (EF), longer HTN duration, higher frequency of family history of coronary artery disease (CAD) and history of hyperlipidemia. In multivariate regression analysis, After adjusting for age, EF, hyperlipidemia and duration of hypertension, LVH was not associated with renal dysfunction, However, the risk of renal dysfunction was increased by decrease in EF (OR: 1.28, 95% CI: 1.07-1.76, p: 0.008).

### Conclusion

despite the higher prevalence of renal dysfunction in LVH and vice versa in Hypertensive patients, LVH was not a significant predictor of the risk of deterioration of renal function independently, and the mechanism of its effect on renal function decline is indirect and is mediated by reduction of left ventricular ejection fraction.

### Keywords

LVH, renal function, BP, HTN.





### The effect of implementation of home care program on clinical outcomes of patients with heart failure: A mixed method study

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### Introduction

Despite the introduction of self-care education as a major factor in disease management programs, self-care and subsequent quality of life in the community of patients with heart failure is still poor. Transferring care from the hospital to home is vital for the purpose of continuity and coordination in the provision of patient care after discharge from the hospital. The present study was conducted with the aim of evaluating the effectiveness of the implementation of the home care program on the clinical outcomes of patients with heart failure.

### **Materials and Methods**

This mixed-method study was performed in Heshmat Hospital (the only specialized heart referral center in the province) and the specialized and subspecialized heart clinic affiliated to Guilan University of Medical Sciences in 2021-22. In the quantitative part, 2 case and control groups of 30 people were considered and the home care program was implemented for the test group. The status of self-care, knowledge, medication adherence and quality of life of patients were measured using valid questionnaires before and after the implementation of the care program. In the qualitative part, an interview with the patient was conducted in order to explain the patients' experiences of the implementation of the home care program. SPSS.V-21 software (descriptive and inferential statistical tests) were used to analyze quantitative data. The process of qualitative data analysis was also carried out by conventional content analysis method at the same time as data collection using MAXQDA.V-18. Then, the results of the two parts were combined to determine the effectiveness of the care program using the matrix analysis method.

### Results

The mean age of the subjects was 64.27±11.16 and the mean duration of their illness was 45.80±72.35 months. The findings of the quantitative part showed that after the implementation of the care program, the scores of self-care, knowledge, medication adherence, and quality of life of the patients in the case group compared to the control group,





and also in the case group compared to before participating in the care program, there was a statistically significant difference in the scores (P  $\leq 0.05$ ). The analysis of the findings of the qualitative part also showed that the patients experienced proper self-care, good quality of life, proper medication adherence and a suitable support system. The combination of qualitative and quantitative findings after the implementation of the care program also showed the consistency of the findings, which these findings confirmed each other.

### Conclusion

Since the implementation of this program has paid attention to the transfer of care from the hospital to the home, it does not allow the cycle of patient care to be interrupted in the hospital and the patient to be abandoned, and by following up and providing continuous care, it can avoid frequent hospitalizations and visits with acute conditions and prevented the crisis of the disease.

### **Keywords**

Home-Care-Program, Heart-Failure, Mixed-Method, Patient







### Unmet care needs of patients with heart failure based on a comprehensive view of the patient, family and treatment team: A mixed method study

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#### Introduction

Despite the importance of heart failure and its widespread effects on various aspects of the patient's life, it's still not well controlled. One of the reasons can be the existence of unmet care needs in patients; therefore, the aim of this study was to explain the unmet care needs of patients with heart failure.

#### **Materials and Methods**

The concurrent mixed-method study was performed in the 2020-21 in Heshmat Hospital and cardiology clinics affiliated to Guilan University of Medical Sciences. In the qualitative phase, interviews were conducted with patient, family and care team, and in the quantitative phase, patients' knowledge were assessed using valid questionnaires. Qualitative data analysis, simultaneously with data collection, was performed by conventional content analysis method. For quantitative data analysis, SPSS.V-21 and descriptive statistics tests were used. Then the results of two phases were combined and compared using matrix analysis.

#### **Results**

In line with the research question and explanation of the sub-categories of the main category of patients' care needs, 5 sub-categories: need to appropriate educational conditions, need to continuous care, need to multidisciplinary care, need to proper patient education and need to family-centered care were obtained. Also, the mean score of patients' knowledge was 27.25±8.36, from 100.

#### Conclusion

The results of the qualitative phase expand the quantitative phase results and identify the educational-care needs of patients due to the low score of patients' knowledge. Therefore, the implementation of a care program tailored to the needs of patients by the care-treatment team can help patients' self-management.

#### Keywords





Heart-Failure, Patient, Care need, Mixed-Method







### End-of-Life Care in Patients with Heart Failure: The Role of Nurses

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#### Introduction

In the advanced stages of this condition, patients may require end-of-life care. This article examines the role and importance of nurses in caring for patients with heart failure throughout the end-of-life process.

#### **Materials and Methods**

A literature search was conducted using the databases Pubmed and Google Scholar from 2010 to 2023, using the keywords "end-of-life care," "nurse," and "heart failure." Six full-text articles were selected for review and analysis.

#### Results

Nurses play a crucial role in assessing and managing pain and symptoms in patients with heart failure. They should regularly assess pain, utilize pain relief techniques and medications, and promote patient comfort. Respiratory problems are common in heart failure patients, and nurses should employ techniques like breathing exercises and oxygen therapy to improve respiratory function. Psychological support and education for patients and families are important aspects of nursing care. Collaboration with the healthcare team is essential. Overall, nurses contribute significantly to the care and well-being of heart failure patients.

#### Conclusion

Nurses are essential in end-of-life care for heart failure patients. They need to have knowledge about heart failure and end-of-life care, collaborate with the team, and use technology for better patient management. Improved end-of-life care enhances the quality of life for heart failure patients and their families.

### **Keywords**

Heart failure, End-Of-Life Care, Nurse





### The Role of Artificial Intelligence in Enhancing Self-Care for Patients with Heart Failure: A Review Study

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#### Introduction

Artificial intelligence (AI) has emerged as a powerful tool in healthcare, particularly in the field of self-care, where patients take an active role in managing their health. This article explores the role of AI in patients with heart failure self-care.

#### **Materials and Methods**

A review was conducted on articles from 2013 to 2023 using databases like Pubmed and Google Scholar, focusing on keywords such as "self-care," "artificial intelligence," and "heart failure." Eight relevant articles were analyzed.

#### Results

Artificial Intelligence (AI) utilizes advanced algorithms and neural networks to enhance selfcare in heart failure patients. It accurately identifies heart failure, predicts complications, and provides personalized guidance for disease management. AI ensures medication adherence, offers health guidance, and facilitates online support through telemedicine applications. By leveraging big data, AI enables patients to track their progress and engage in suitable selfcare activities, improving clinical symptoms and enhancing the quality of life.

### Conclusion

Enhancing heart failure management with ai and big data in self-care

Ai And Big Data integration in self-care improve heart failure management and outcomes.

### Keywords

Heart Failure, Self-Care, Artificial Intelligence





### Innovative Technologies in Nursing Care for Heart Failure: A Review Study

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#### Introduction

This article reviews the use of innovative technologies in nursing care for heart failure patients, considering their impact on patient outcomes.

#### **Materials and Methods**

A review was conducted, analyzing studies and research from 2010 to 2023, using PubMed and Google Scholar databases with keywords such as "innovative technology," "nursing care," and "heart failure." Ten full-text articles were examined and analyzed.

#### Results

Advanced monitoring systems, including sensors and surveillance devices, provide real-time patient data for prompt action. These systems aid in the early detection and faster treatment of cardiac problems by transmitting data to healthcare professionals. Innovative technologies reduce medical errors through accurate medication administration and precise treatment instructions. Access to medical information is enhanced via mobile applications, facilitating online communication with specialized professionals. Robots and artificial intelligence improve nurse-patient communication by providing instructions, conducting exercises, and monitoring well-being. Telemedicine applications enable continuous communication and feedback.

### Conclusion

The integration of innovative technologies in nursing care for heart failure patients improves care quality and patient outcomes.

### Keywords

Nursing, Innovative Technologies





### Telemedicine Applications in Self-care of Patients with Heart Failure: A Review Study

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### Introduction

Telemedicine has emerged as a promising solution to address the challenges faced by heart failure patients in adhering to daily self-care practices and maintaining continuity in their treatment plans. This article reviews the utilization of remote telemedicine in improving self-care for patients with heart failure. By leveraging advancements in communication technology, telemedicine methods have been developed to assist patients in managing their condition and facilitating treatment follow-up.

#### **Materials and Methods**

In this study, articles from 2010 to 2023 were reviewed using databases such as Pubmed and Google Scholar, with the keywords "self-care," "remote telemedicine," and "heart failure." Ultimately, 12 full-text articles were analyzed and examined.

#### Results

Wearable devices like smartwatches and sensors help heart failure patients monitor vital health indicators. Mobile and web apps enable symptom and medication tracking, sending reminders for self-care. Communication methods like calls and texts connect patients with healthcare providers for support. Smart monitoring systems automatically record symptoms and alert doctors to critical changes. Online resources and virtual support enhance patient understanding and confidence.

### Conclusion

Telemedicine improves self-care, and disease control, and reduces hospitalization in heart failure patients.

### Keywords

Heart Failure, Self-Care, Remote Telemedicine





# Effects of bariatric surgery on cardiac morphology and QTc interval: a prospective study

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#### Introduction

Obesity is a global concern that affects many aspects of health. Cardiac morphology especially left ventricle morphology, is among the changes related to obesity. With increasing body-mass index, left ventricle mass and relative wall thickening become greater.

Aim: The present study aimed to evaluate the effects of weight loss, as a result of bariatric surgery, on cardiac morphology and QTc interval.

#### **Materials and Methods**

This prospective longitudinal study was conducted from February 2020 to March 2021 in Chamran Hospital, Isfahan, Iran. Normotensive patients who had a body-mass index of more than 40 kg/m2 and was a candidate for bariatric surgery were included in the study. The echocardiographic and electrocardiographic features were assessed before surgery and 6 months after surgery. The collected data were analyzed by IBM SPSS statistics 20. A p-value less than 0.05 is considered statistically significant.

#### Results

Sixty-three patients participated in the study. The majority of them were female (87.3%). The mean (standard deviation) age and height of them were 35.52(8.86) years and 162.52 (8.81) cm. The analysis showed that the body-mass index decreased from 44.05(3.66) to 31.41(3.19) kg/m2. Also, left ventricle mass, left ventricle mass index and relative wall thickening improved from 136.68(31.22) to 105.54(25.52) ml, (12.61) to 56.33(11.54), 0.369(0.054) to 0.317(0.040) (P-value<0.001). Also, heart rate and QT interval decreased from 86.64(14.50) to 71.40(10.44) and 412.66(23.75) to 385.96(25.32), respectively.

#### Conclusion

The present study revealed that bariatric surgery and weight loss altered cardiac indices, including left ventricle morphological features, QT interval and heart rate.

#### Keywords

bariatric surgery cardiac morphology QTc





## Perspective of patients with heart failure reduced ejection fraction (HFrEF) on weight and shortness of breath selfmonitoring at home: A qualitative content analysis

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#### Introduction

Heart failure (HF) patients with reduced ejection fraction (HFrEF) experience a higher rate of hospitalization compared to HF patients with preserved ejection fraction (HFpEF). Early detection of HF decompensations through the use of main symptom diaries can be effective method to prevent hospitalization and improve self-care. Therefore, we aimed to explain the perspective of HFrEF patients on weight and shortness of breath self-monitoring at home.

#### **Materials and Methods**

In this qualitative conventional content analysis, we conducted semi-structured interviews were performed with adult patients who had a confirmed diagnosis of HFrEF at the HF clinic of Tehran Heart Center affiliated with Tehran University of Medical Sciences (Tehran, Iran). Participants were selected using maximum variation sampling method. The data collection continued until data saturation was reached. The primary question asked was "what is your perspective on weight and shortness of breath self-monitoring at home?" Probing questions were asked to gather in-depth information. The interviews were transcribed line by line and analyzed using qualitative content analysis. Verbal informed consent was obtained for participation and voice recording during the interviews.

#### **Results**

Thirty patients with mean (standard deviation) age of 53.4 (13.3) years participated in this study, of whom 26.5 were women. The median (interquartile range) time with HF was 13 (4 to 37) month. Ischemic heart diseases (44%) and hypertension (35%) were the most common etiologies. The majority of patients had NIHA functional class II and III. Five main categories emerged as follows: "Sticking in mind and preventing forgetfulness", "Improving patients' self-confidence to control their disease", "Improving patients' hope and disease awareness", "Persuasiveness and feeling supported", and "Self-monitoring is like a preventive program and not a time-consuming process".

#### Conclusion





Patients with HFrEF expressed a favorable perspective towards monitoring their symptoms at home, suggesting its potential as an integral component of their overall care.

#### Keywords

HeartFailure self-monitoring ContentAnalysis







### Adherence to symptom diary among patients with Heart Failure reduced Ejection: a secondary analysis

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#### Introduction

Patients with heart failure reduced ejection fraction (HFrEF) often experience high rates of hospital admissions. The use of colorful diaries for symptom monitoring has been associated with improved patient's awareness of their own body and better communication with healthcare providers. Additionally, it can help patients identify symptoms at an early stage and reduce the number of preventable hospitalizations. Therefore, the aim was to evaluate the adherence to symptom diary among patients with HFrEF.

#### **Materials and Methods**

This study involved a secondary analysis of data from a clinical trial study (Registration ID IRCT2017021032476N1). The trial focused on 34 patients with HFrEF (EF  $\leq$  40 %) and NYHA function class II to IV in HF clinic at Tehran Heart Center (THC) affiliated with Tehran University of Medical Sciences (TUMS, Tehran, Iran). The patients were provided with weight and shortness of breath (SOB) diaries for a three-month period. The diaries were color-coded categorizing patients' condition into three color zones of green (excellent), yellow (use caution), and red (warning). In the weight diary, a weight gain of 1 kilogram in one day, and 2.5 kilograms in one week were as a yellow and red zone, respectively. The SOB diary utilized a visual analogue scale with scores ranging from 0 to 10. The green, yellow, and red color zones in the SOB diary indicated no new or worsening SOB (scores of 0-3), worsening SOB with activity or at night when lying down (scores of 4-6), and struggling to breath or SOB at rest or exists while sitting (scores of 7-10), respectively. For analysis, patient adherence, number of days spent in different zones, and any increases in diuretic dosage were considered. The data was described using STATA/IC statistical software version 14.2 (Stata Corp LP College Station, TX, USA).

#### **Results**

Thirty out of thirty four eligible patients completed the symptom diaries. The mean patients` adherence (SD) was 86 (7) days. The mean number of days that patients' weight was in green, yellow, and red zones were 71 (26), 9 (2), and 6 (1) days, respectively. Additionally, patients SOB was in green, yellow, and red zones for 75 (27), 9 (2), and 3 (1) days,





respectively. According to these diaries, 43.3 % of patients could increase their diuretic dosage.

#### Conclusion

This study indicated that patients' adherence to the HF symptom diaries was optimal, and the diary helped them maintain their condition in the green zone. Although this diary aided in symptom recognition, a smaller proportion of patients were able to increase their diuretic dosage to relieve their symptoms.

#### Keywords

Diary Heart failure secondary analysis







### Nursing care of Heart failure in hemodialysis patient

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#### Introduction

Patients with end-stage Renal disease (ESRD) requiring dialysis are at increased risk for development of heart failure (HF). Factors that may contribute to HF in the dialysis patient include fluid overload, left ventricular hypertrophy, arterial stiffness, and valvular heart disease. All dialysis patients should undergo screening and evaluation for heart disease and cardiovascular risk

#### **Materials and Methods**

In this study all articles in heart failure field searched between 200-2023. in this search have been used key words: nursing care- heart failure- hemodialysis. 56 articles were reviewed. 32 articles were disrelated and omitted. finally 24 articles were completely related to managment and prevention on Heart failure in dialysis nursing.

#### Results

The approach to management or prevention of HF in the dialysis patient varies depending upon the clinical presentation. General measures for all dialysis patients to prevent or treat HF include monitoring for the development or worsening of HF and management of contributing or concurrent conditions (including hypertension, coronary heart disease). Optimizing volume status is an important goal in the management of HF in hemodialysis patients. Optimizing the duration or frequency of dialysis in an option for difficult-to-manage HF. Increasing the duration of hemodialysis or instituting daily hemodialysis is likely to provide better volume control and minimize intradialytic hypotension than that provided by a standard dialysis schedule

#### Conclusion

Some measures may help reduce the risk of Hf in ESRD patinets include: cool dialysate bath, management the hypotensive effect of prescribed medications, Kidney transplantation, Control of hypertension. Dialysis patients with HF should be counseled on daily monitoring of weights, edema, and symptoms; medication management; and exercise. They should receive dietary counseling including advice on maintaining adequate protein intake, fluid restriction, sodium restriction, and limiting foods high in potassium or phosphorus. Patients should also receive advice on smoking cessation and restriction of alcohol consumption and avoidance of illicit drug use (eg, cocaine).



Joint 7th International Iranian Heart Failure Summit



### Keywords

Heart failure- Hemodialysis -Nursing care





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### The Beneficial Role of Aerobic Exercise with Blood Flow **Restriction on Cardiovascular function of Heart Failure patients** with Mildly Reduced Ejection Fraction (HFmrEF)

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#### Introduction

Exercise training is an important part of Cardiac rehabilitation, and considered as a trend in adjuvant treatments for Heart Failure patients with Mildly Reduced Ejection Fraction ((HFmrEF). Using Aerobic Exercise as moderate-intensity continuous training (MIT) may improve the cardiovascular function of HFmrEF patients. Kaatsu training is a new training method that based on the partial Blood Flow Restriction training (BFR) on the limbs that causes positively influence on cardiovascular function. Therefore, the present study compares the effect of Aerobic Exercise as MIT with and without BFR on Cardiovascular function of HFmrEF patients.

#### **Materials and Methods**

In this clinical trial, 38 patients (20 female, 18 male) with Mildly Reduced Ejection Fraction, were randomly (1:1) assigned to MIT and MIT+BFR groups. all participants, performed protocol on a treadmill 3days/week for 12weeks. The training intensity was determined according to the Cardiopulmonary exercise testing and LV function was assessed by Echocardiogram. before and after Interventions, analysis was performed to compare means of





2D and 3D Left Ventricular Ejection Fraction, Global Longitudinal Strain, Global Circumferential Strain and VO2 peak between and within groups. Analysis of Covariance was used to compare the results.

#### Results

Based on the results of this research, the changes in the means of Echocardiographic parameters and VO2 peak were statistically significant among all the patients irrespective of exercise type, however, the mean of study parameters, were significantly increased in the MIT with BFR group (P < 0.05).

#### Conclusion

it seems that the difference between the groups is more related to the BFR, Therefore, regardless of the type of exercise, the present study suggests the use of a combination of MIT with BFR as a way to make positive changes in Cardiovascular Function of Heart Failure patients with Mildly Reduced Ejection Fraction.

#### Keywords

Aerobic Exercise, BFR, Heart Failure







### سواد سلامت در مبتلایان به نارسایی قلبی مراجعه کننده به بیمارستان های دانشگاه علوم

یزشکی قم در سال ۱۴۰۲

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#### Introduction

سواد سلامت را می توان یکی از شاخص های تاثیر گذار بر رفتارهای سلامتی محور دانست. لذا مطالعه حاضر با هدف بررسی سواد سلامت در بیماران مبتلا به نارسایی قلبی در <mark>شهر قم انجام شد.</mark>

#### **Materials and Methods**

پژوهش حاضر یک مطالعه توصیفی- تحلیلی بود که بر روی ۱۰۰ نفر از مبتلایان به نارسایی قلبی مراجعه کننده به بیمارستانهای دانشگاه علوم پزشکی قم )۱۴۰۲( به روش نمونه آیری در دسترس انجام شد. داده آ ها به وسیله چک لیست اطلاعات زمینه ای و و ازمونهای آمار توصیفی، SPSS( جمع آوری شد. تحلیل داده آها با استفاده از نرم افزار ۲۱ TOFHLA پرسشنامه سواد سلامت ) استنباطی و رگرسیون در سطح معنی داری ۰/۰۵ مورد تجزیه و تحلیل قرار گرفتند.

#### Results

نتایج نشان داد که میانگین نمره سواد سلامت ۱۱/۴۰±۶۲/۳ بود. متغیرهای سن، سطح تحصیلات، تعداد ساعت فعالیت در اجتماع، میزان R=درامد ماهانه و پایبندی به ادامه درمان ۴۵ ٪ از تغییرات واریانس سواد سلامت مبتلایان به نارسایی قلبی را تبیین می کند) (.0.451, 0.451

#### Conclusion

بر اساس یافته های مطالعه حاضر سواد سلامت مبتلایان به نارسایی قلبی در حد متوسط بود. لذا پیشنهاد می شود مدیران بیمارستانی به افراد مسن، با تحصیلات پایین، ساعات کم حضور در فعالیت های اجتماعی، درامد ماهانه پایین و عدم پایبندی به ادامه درمان توجه بیشتری در زمینه اموزش به بیمار، پیگیری در منزل و اموزش پایش عوارض را نمایند

#### Keywords

سواد سلامت، نارسایی قلبی، ایران





## **Effects of Thirst Management Strategies on Thirst Intensity and** Discomfort in Patients with Heart Failure: a systematic review

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#### Introduction

Chronic heart failure (CHF) patients commonly experience thirst, which can be a very troublesome symptom. A diuretic administration and a fluid intake limitation can both lead to a thirst sensation in patients with CHF. It has been observed that if a thirst sensation is not handled in a timely manner, it can result in disobedient of a patient fluid consumption limitations that worsen the patient's condition. Thus, this systematic review is conducted to evaluate the published literatures on thirst management strategies in patients with heart failure.

#### **Materials and Methods**

The protocol of the systematic review followed the PRISMA guideline. An extensive search from the beginning to April 13, 2023, using current articles in databases such as PubMed, CINAHL, Scopus, CINAHL, EMBASE, Web of Science, and Cochrane Library with keywords "Thirst Management", "Thirst Intensity", "Thirst Discomfort", "Heart Failure", "Cardiac Failure", and "Myocardial Failure" was conducted. All English-published clinical trials that met the inclusion criteria were included in this review. Using the Joanna Briggs Institute tool, which includes evaluation methodologies for all types of studies, a risk of bias assessment was conducted.

#### Results

Database searches yielded 633 articles, which were reduced to 19 articles by examining titles and abstracts. Finally, 5 articles met our criteria after reviewing full texts. A narrative synthesis is conducted. As a result, chewing gum (3 items), frozen strawberries (1 item) and saliva replacement (1 item) seem to be a practical approach to improve thirst intensity and discomfort in patients with heart failure.

#### Conclusion

Despite the effectiveness of the mentioned interventions on improvement of thirst intensity and discomfort in patients with heart failure, there are still few interventional studies in this field, so it is suggested that more studies be conducted to confirm the findings of the studies.

#### **Keywords**





Thirst-Management Thirst-Intensity Thirst-Discomfort Heart-Failure







### **Providing an automated method for detection artery** atherosclerosis based on carotid arteries to prevent ischemic stroke in these patients based on a new thermography technique

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#### Introduction

Atherosclerosis causes narrowing and obstruction of the arteries, eventually leading to ischemic heart and brain events And in many patients, coronary heart disease and cerebrovascular involvement occur simultaneously. Early detection of asymptomatic carotid artery stenosis will be important in reducing the risk of cerebrovascular accidents and preventing disabilities.

#### **Materials and Methods**

The present study was done on a set of thermal images taken from patients in this imaging, the automatic diagnosis of atherosclerosis was made based on the difference in mean temperature between the arteries and the areas of the neck adjacent to the arteries and based on a baseline reference temperature.

#### Results

In this study, examinations performed by a cardiologist, which was previously performed on patients, confirm the accuracy of this work. Techniques and tips that have been obtained experimentally and based on scientific principles in conducting this research, can help physicians to quickly diagnose atherosclerosis based on the analysis of thermal images.

#### Conclusion

The method presented in this paper is considered as a non-invasive and cost-effective method that works automatically to diagnose atherosclerosis of coronary arteries, as well as clogged arteries and the possibility of ischemic stroke.

#### Keywords

Atherosclerosis, coronary arteries, thermal images.



Shahid Beheshti University



# **Application of Pender's Health Promotion Model to Caregivers of** Heart Failure Patients in Iran: A Quasi-Experimental Before-**After Study**

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#### Introduction

Pender's Health Promotion Model is a comprehensive solution for improving health and reducing the risk of chronic conditions. This study aimed to investigate the effect of a care program based on Pender's Health Promotion Model on the caregiving burden of patients with chronic heart failure in Iran.

#### **Materials and Methods**

This quasi-experimental study with a control group was conducted at the Imam Khomeini Heart Clinic in Saghez between 2022 and 2023. Ninety caregivers of patients with chronic heart failure were randomly assigned to either the intervention group or the control group. Data were collected using a demographic information questionnaire and the Caregiver Burden Inventory (CBI) before and 50 days after the intervention. Data were analyzed using independent t-test, chi-square, and paired t-test in SPSS V 25, with a significance level of 5%.

#### Results

The results of this study indicated that the control and intervention groups were homogeneous in terms of demographic characteristics (p = 0.643). The findings also showed a statistically significant difference in the mean scores of all dimensions of caregiving burden between the two groups after the intervention, such that the overall mean score of caregiving burden in the intervention group had a significant reduction (p<0.0001).

#### Conclusion

This study demonstrated the effectiveness of a care program based on Pender's Health Promotion Model in reducing the caregiving burden of patients with chronic heart failure in Iran. This program can also contribute to improving the quality of life of families with chronic heart failure patients and reducing their medical costs as a comprehensive solution for improving health and reducing the risk of chronic diseases.

#### Keywords





Pender, Caregiving Burden, Heart Failure.





Shahid Beheshti University



### The Role of the Heart Failure Dashboard to Reducing Readmissions

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#### Introduction

Heart Failure (HF) is one of major causes of hospitalization among adults more than 65 years. The cost of treating these patients is very high. Despite dramatic improvement in outcomes with medical therapy, admission rates following heart failure hospitalization remain high, with  $\geq$  50% patients readmitted to hospital within 6 months of discharge; because reduction in readmission rates might simultaneously reduce costs and improve quality of care, public and private payers have increasingly targeted readmissions as a focus of pay-for-performance initiatives.

#### **Materials and Methods**

Information Technology (IT) has been identified as a key factor in achieving improved patient safety and quality of care. Nurses as one of hospital staffs involve information from assessing the health care needs of patients, to developing care plans, to communicating patient information to other health professionals, to developing reports. Electronic medical records (EMRs) are a digital version of the paper charts in the clinician's office. A comprehensive EMR-based approach utilizing an HF dashboard in addition to an established HF readmission reduction program would further reduce 30-day all-cause index hospital readmission rates for HF.

To reduce 30-day HF readmission rates, EMR-based measures were instituted to improve cohort identification, intervention tracking, and readmission analysis, the latter supported by an electronic HF dashboard.

#### **Results**

The heart failure dashboard reduced readmission rates by allowing the clinical team to easily identify groups with high readmission rates and/or low intervention rates. Thus; The readmission rate of these patients with a 30-day index decreased significantly, from %18.2 to %14 after the implementation of the quality improvement program. Implementation of an electronic medical record-based approach significantly reduced the 30-day hospital readmission rate for heart failure patients to %10.1. Daily time to screen patients decreased from 1 hour to 15 minutes, group identification accuracy from %83 to %94.6, and the





percentage of patients who received necessary interventions, such as patient education, also improved from %22 to %100.

#### Conclusion

Using information technology, an electronic medical record-based quality improvement program, and a heart failure technology dashboard, the 30-day readmission rate for patients with heart failure was significantly reduced.

#### Keywords

Heart Failure, HF Dashboard







# تاثیر مشارکت برنامهریزی شده همراه بیمار در مراقبتهای اولیه پرستاری بر درد قفسهسینه و اضطراب بیماران بخش مراقبت ویژه قلب بیمارستان رازی بیرجند در سال ۱۴۰۱ ۰

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#### Introduction

بستری شدن بیماران در بخشهای مراقبت ویژه قلب با پیامدهای منفی مانند درد قفسه سینه، سکته قلبی، مرگ همراه است. لذا این مطالعه با هدف بررسی تأثیر برنامه آموزشی مشارکت خانواده در مراقبتهای اولیه پرستاری بر درد قفسه سینه بیماران بخش مراقبت ویژه .قلب بیمارستان رازی بیرجند در سالهای ۱۴۰۰–۱۴۰۱ انجام شد

#### **Materials and Methods**

این مطالعه یک پژوهش نیمه تجربی قبل و بعد با گروه کنترل بود. در مجموع ۴۸ بیمار در یک گروه کنترل ۲۴و در گروه مداخله ۲۴ به روش تصادفی با روش بلاکبندی) بلوک ۴ نفر( انتخاب شدند. لازم به ذکر است علاوه بر بیماران بستری که ۴۸ نفر بودند ۴۸ مشارکتکننده دیگر نیز در این پژوهش به عنوان همراه بیمار مشارکت داشتند. به همراه بیمار در گروه مداخله اجازه داده شد به مدت ۳ روز به مدت ۳۰ دقیقه به صورت برنام ریزی شده در کنار بیمار حضور یافته و در مراقبتهای اولیه بالینی خود مشارکت داشته باشند. در گروه کنترل، ملاقات روتین در بخش انجام شد. درد قفسه سینه در هر دو گروه در ابتدا و در روز سوم بستری بیمار با پرسشنامه درد می نسخه ۱۶ تجزیه و تحلیل شدند SPSS گیل اندازه گیری شد. دادهها با نرم افزار

#### Results

p ·/ ۳۱۳ ( میانگین نمره شدت درد قبل از در گروه مداخله بالاتر از گروه کنترل بود، اما بین دو گروه تفاوت معنی داری مشاهده نشد نیز، نمره اضطراب در گروه مداخله ۲۰/۳ = ). (اما بین میانگین شدت درد بعد از مداخله در دو گروه تفاوت معنی داری وجود داشت .) قبل از مداخله ۲۹/۲۹±۱۶/۷۹ بود که پس از مداخله به ۴۶/۴۳±۱۲/۳۲ کاهش یافت و آزمون تی زوجی تفاوت معنی داری را نشان داد .)(.P=۰/۰۱)

#### Conclusion

استفاده از این برنامه میتواند به میزان قابل توجهی درد قفسه سینه و اضطرب بیماران را کاهش دهد. بنابراین توصیه میشود. استفاده از .. این روش در بخشهای مراقبت ویژه قلبی برای کاهش دردهای قلبی و اضطراب این بیماران مد نظر مسئولین قرار گیرد

#### Keywords

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مشاركت خانواده، دردقفسه سينه، اضطراب
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### Acceptance of illness and the quality of life in patients with heart failure: A path analysis of a conceptual model

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#### Introduction

Heart failure (HF) is a chronic disease that negatively affects different aspects of the patients' lives, diminishing their quality of life. This research studied factors that impact the health-related quality of life (HRQoL) of patients with HF, particularly acceptance of illness.

#### **Materials and Methods**

In this cross-sectional study, data were collected from 273 patients admitted to a tertiary hospital with the diagnosis of HF. Participants' level of illness acceptance and HRQoL were assessed using validated questionnaires, and data were analyzed using the regression path analysis.

#### Results

There was a moderate level of acceptance of illness  $(24.9 \pm 6.79)$  and HRQoL  $(53.81 \pm 17.99)$  among participants. Gender, education, income, history of coronary artery bypass (CABG), the New York Heart Association (NYHA) class, acceptance of illness, was statistically significantly associated with HRQoL. Patients with diminished HRQoL were more likely to be female, less educated, have lower income, higher NYHA class, no prior CABG, low medication adherence, and low level of acceptance of illness. The final path model demonstrated a good fit with the data ( $\chi^2/df= 1.70$ , CFI=0.92, RMSEA= 0.05, and p=0.01).

#### Conclusion

Health care providers should target and promote the acceptance of illness as modifiable factors to help improve the HRQoL of patients with HF.

#### Keywords

Keywords: Acceptance illness, heart failure





### The Impact of Heart Failure on the Dimensions of Patients' Life

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#### Introduction

Heart failure, as a progressive and debilitating clinical syndrome, can significantly affect various dimensions of life and lifestyle of affected individuals. This change is accompanied by numerous challenges for patients. This study aims to investigate different aspects of living with heart failure.

#### **Materials and Methods**

The present narrative review was conducted by searching databases including Scopus, Web of Science, CINAHL, SID, and Magiran within the timeframe of 2015 to 2022. The study followed the PRISMA guidelines and employed the PICOT search strategy with keywords such as Heart failure, Lived experience, Quality of life, life, and by combining all of their possible variations in both Persian and English languages.

#### Results

Based on the findings from the reviewed literature, heart failure impacts the dimensions of patients' lives in four aspects: physical, emotional, social, and economic. It leads to reduced physical activity, increased dependence on caregivers for daily activities, higher rates of hospitalization and longer hospital stays, the necessity of using life-supporting medications and equipment, progressive failure of other vital organs, and various psychological disorders such as depression, anxiety, pessimism, and suspicion, as well as sleep disturbances, diminished social relationships, job loss, and the inability to afford medical expenses, which all affect the dimensions and lifestyle of the patients and their families.

#### Conclusion

In general, living with heart failure entails numerous challenges that require diverse strategies for management and improvement. Nurses, by relying on therapeutic and rehabilitation skills, can play a significant role in preventing the exacerbation of disease symptoms and focusing on the recovery of these patients. Therefore, it is necessary to empower nurses by employing up-to-date guidelines and implementing nursing interventions to enhance the lifestyle and quality of life of heart failure patients in non-hospital settings.

#### Keywords

Heartfailure Qualityoflife Lifestyle





### Effects of home care- telehealth program on self-care of congestive heart failure patients

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#### Introduction

Congestive heart failure (CHF) is one of the chronic diseases that requires long-term care. Self-care is one of the key areas in the management and control of this disease and should be encouraged in these patients. Due to the importance of moving care from the hospital to home and the challenges of face-to-face visits and home care, telenursing home care is one possible solution for these patients. The aim of this study was evaluating the impact of home caretelehealth program on self care of patients with CHF.

### **Materials and Methods**

This is a clinical study in which 70 CHF patients (35 control group, 35 intervention group) were randomly recruited. This intervention study was a home care and telemedicine program, with researchers calling patients on their computers or mobile phones using webcams. Data were collected using a demographic questionnaire, heart failure self-care index, and peripheral edema, shortness of breath, thirst, orthostatic hypotension, and hospitalization form. Data analysis was performed by statistical and descriptive analysis using SPSS 16 software.

#### Results

The two groups were similar in terms of baseline study primary and secondary outcomes and demographic and clinical differences. There was no difference in maintaining self-care between the two groups after the intervention (P = 0.187). However, there were significant differences between the two groups for self-care management (p<0.001) and self-care confidence (p < 0.0.01) and shortness of breath (P = 0.036).

#### Conclusion

Implementing a home care- telehealth program can affect self-care management, self-care confidence and shortness of breath in CHF patients. Using this method can help CHF patients better manage CHF and reduce their symptoms and problems such shortness of breath.

### **Keywords**

Heart failure- Home care- Telenursing



Shahid Beheshti University



# The three-month effect of garlic administration on cardiac outcomes in patients with heart failure: A randomized doubleblinded clinical trial

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#### Introduction

Garlic has been suggested to have antioxidant, anti-hypertensive, and anti-hyperlipidemic effects. However, its administration's consequences on cardiac function in heart failure (HF) patients still needs to be more investigated. We aimed to evaluate the effect of garlic prescription on Iranian HF patients to assess cardiac outcomes and quality of life scores.

#### **Materials and Methods**

This randomized double-blinded clinical trial was done from August 2020 to December 2020. 160 HF individuals [New York heart association (NYHA) functional class of II and III] referred to private clinics in Isfahan, Iran, were selected and were randomly assigned to intervention (n=80), and the control (n=80) group received 500 mg of odorless garlic tablets or

the same shape and dosage of placebo twice daily, respectively, for three months. Laboratory

data, cardiac outcomes (end-diastolic diameter, ventricular septal thickness, NYHA functional

class, left ventricular ejection fraction), quality of life score (Minnesota living with HF questionnaire), and modified Borg scale (MBS) were assessed both at the baseline and the trial end date.

#### **Results**

The mean age of the population was 58.1±13.5 years (males: 55%). Patients consumed

garlic had remarkably improved functional class compared to placebo takers and their baseline





(NYHA functional class of II, 79.4% vs. 50.6%, P< 0.001 and 79.4% vs. 54%, P= 0.006, respectively). The MBS was significantly lower among garlic consumers (baseline: 2.52±0.5, after three months:  $2.2\pm1.06$ , P= 0.040).

### Conclusion

Administration of garlic could effectively improve cardiac function and breathing

quality in HF patients. Complementary studies are necessarily confirming our findinigs.

#### Keywords

Heart failure Garlic Quality



Shahid Beheshti University



### Inter-professional Palliative Care based on Mental Health in Patients with Heart Failure: a quasi-experimental study

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#### Introduction

The speed of heart failure progression as well as the debilitating mental problems caused by this disease highlights the need for palliative care with a focus on mental health by an interprofessional team. In this regard, the present study aimed to determine the effectiveness of the mental health-based palliative care program on anxiety and depression in patients with heart failure.

#### **Materials and Methods**

This quasi-experimental study was conducted on 50 patients with heart failure in Isfahan, Iran. First, the case and control groups were selected using the convenience sampling method and inclusion criteria. The patients in the case group received the mental health-based palliative care program, three times a week for 6 consecutive weeks in a combination of inperson sessions at home/hospital, online and offline. The patients in the control group only received the routine care program of the Hospital. The data were collected using the demographic characteristics questionnaire and the hospital anxiety and depression scale before and after the intervention in both groups, and then analyzed using SPSS 23 and descriptive and inferential statistics (Chi-square test, Fisher's exact test, independent t-test, paired sample t-test)

#### **Results**

The results showed that the mean age of the control group and the case group was  $60.16\pm11.24$  and  $59.52\pm10.46$ , respectively. Most patients in both case and control groups were male (76% and 64%). The two groups showed no significant difference in the average scores of hospital anxiety and depression before the intervention (P>0.05). However, after the intervention, the anxiety and depression scores significantly reduced (P < 0.001).

#### Conclusion

Considering the effectiveness of a "mental health-based palliative care program" on the improvement of anxiety and depression in patients with heart failure, it can be included in the routine programs of these patients, in addition to the care for relieving physical pain, to





improve their mental condition and obtain better treatment, care, support, and palliative results.

### Keywords

HeartFailure PalliativeCare MentalHealth InterProfessional







## Adaptation of Interdisciplinary Clinical Practice Guidelines to Palliative Care for Patients with Heart Failure in Iran: **Application of ADAPTE method**

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#### Introduction

Clinical Practice Guidelines)CPGs( have been recommended to manage palliative care and take the best treatment measures and decisions. This study aimed to adapt the interdisciplinary CPG to provide palliative care for patients with heart failure in Iran based on the ADAPTE method

#### **Materials and Methods**

Guideline databases and websites were systematically searched up to April 2021 to determine appropriate publications related to the study topic. Followed by assessing quality of the selected guidelines via The Appraisal of Guidelines for Research & Evaluation Instrument (AGREE II), those with appropriate standard scores were selected to be used in designing the initial draft of the adapted guideline. The developed draft contained 130 recommendations and was evaluated by a panel of interdisciplinary experts in terms of its relatedness, comprehensibility, usefulness, and feasibility in two phases of Delphi.

#### Results

In the first phase of Delphi, the adapted guideline was derived from five guidelines and evaluated by 27 interdisciplinary pundits working in universities of Tehran, Isfahan, and Yazd cities. After the assessment in Delphi Phase 2, four recommendation categories were removed because they did not receive the required scores. Finally, 126 recommendation items were included in the developed guideline, which were classified into three main categories of palliative care features, essentials, and organization.

#### Conclusion

In the present study, an inter professional guideline was designed to enhance palliative care information and practice in patients with heart failure. This guideline can be administered as a valid tool for inter professional team members to provide palliative care to patients with heart failure

#### Keywords





ADAPT Adaption PracticeGuideline HeartFailure PalliativeCare







### Pacing induced cardiomyopathy: A case of acute heart failure after pacemaker implantation

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#### Introduction

Pacing induced cardiomyopathy is defined as reduced left ventricular (LV) systolic function after pacemaker imputation with high burden right ventricular pacing. The onset of heart failure is varied from weeks to years after implantation.

#### **Materials and Methods**

Here we report a an 78-year-old woman, with chronic atrial fibrillation and slow ventricular response which received single chamber pacing (RV apical). She had frequent hospital admissions after 6 weeks due to exaggerated dyspnea on exertion, orthopnea, pedal edema, pleural effusion and reduced LV ejection fraction, new moderate - severe tricuspid regurgitation (TR) and moderate mitral regurgitation (MR). Perfusion lung scan and computerized tomography of pulmonary and coronary arteries was within normal limits. The interrogation of device revealed 97% ventricular pacing with normal sensing, threshold and impedance.

#### Results

The RV lead was removed and His-bundle pacing was performed. After 3 weeks the symptoms and signs recovered, echocardiography showed mild MR and TR.

#### Conclusion

Cardiac conduction system pacing (direct His bundle or left bundle pacing) and cardiac resynchronization therapy may reduce chance of pacing induced cardiomyopathy.

#### **Keywords**

heart failure, pacemaker, atrial fibrillation





## Title: The effect of music on quality of sleep in patients with Heart Failure: a randomized controlled trial

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### Introduction

Patients with heart failure (HF) experience low quality of sleep. Several studies have indicated the positive effect of music on quality of sleep among different cardiac patients. However, its effect on patients with HF have not been studied. Thus, the aim was to determine the effect of music on quality of sleep among patients with HF.

#### **Materials and Methods**

In this randomized clinical controlled trial (ID approval IRCT2019010929321), 76 eligible patients with HF (2019) hospitalized at Milad hospital (Tehran, Iran) were recruited to the study and randomly allocated to two groups of intervention and control by block balanced randomization method. We collected demographic and clinical data at baseline. PSQI were used to measure the sleep quality at baseline and at the end of the intervention, as well. Nature sound music for 30 minute during three continuous nights were provided to the intervention group. Control group received no intervention. Analysis was conducted using SPSS version 16.

#### Results

There was no difference between the two groups regarding the demographic and clinical characteristics at baseline. Mean of sleep quality score was 10.9 (4.1) and 9.8(3.9). Mean of subjective sleep quality was 1.26 (1.31) and 1.65(1.34) and mean of daily dysfunction due to sleeplessness was 1.73(1.5) and 1.28 (1.37) in the control and intervention group, respectively.

#### Conclusion

Music may improve quality of sleep in subjective sleep quality and daily dysfunction subscales in patients with HF.

#### **Keywords**

Music, SleepQuality, HeartFailure, RandomizedControlledTrail





### **Investigating the Effect of Family-Centered Self-Care Program** based on Home Visits Regarding Dietary and Medication **Regimen Adherence of Discharged Patients with Acute Coronary** Syndrome

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#### Introduction

Dietary and medication regimen adherence in patients with history of Acute Coronary Syndrome (ACS) is very important in preventing readmission and reducing the complications of the disease. The objective of the present study was to investigate the effect of the familycentered self-care program based on home visits dietary and medication regimen adherence in patients with ACS discharged from Shahid Chamran Hospital during 2017-2018.

#### **Materials and Methods**

This clinical trial was conducted on 80 ACS patients. The samples by using the random numbers table, were randomly divided into control and experimental groups. The routine interventions were administered for the control group, and family-centered self-care was conducted on patients of the experiment group. In order to obtain the quantitative data of this study, three questionnaires were used including demographic characteristics, Morisky questionnaire, and dietary adherence.

#### Results

The difference between the mean score of medication and diet regimen adherence in both groups before the intervention was not significant (p > 0.05). data was demonstrated that scores of medication and diet regimen adherence were significantly higher immediately and 6 weeks after the intervention; (f = 64.06, p < 0.001).

#### Conclusion

Family-centered self-care program based on home visits can be used as an effective method to increase the dietary and medication regimen adherence in ACS patients.

#### **Keywords**





Acute coronary syndrome, family nursing







## THE PERSIAN VERSION OF THE FAMILY FUNCTIONING, HEALTH, AND SOCIAL SUPPORT QUESTIONNAIRE IN A SAMPLE OF HEART FAILURE PATIENTS AND THEIR FAMILY MEMBERS

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#### Introduction

Family functioning, family health, and social support have significant roles in the management of heart failure (HF). This study aimed to translate, adapt, and assess the validity and reliability of the Persian version of the Family Functioning, Family Health, and Social Support (FAFHES) questionnaire.

#### **Materials and Methods**

FAFHES questionnaire was translated into Persian, and an expert panel assessed the crosscultural adaptation. We examined the construct validity by confirmatory factor analysis and internal consistency by Cronbach's alpha coefficients among 576 participants.

#### Results

The Persian FAFHES confirmed the three-factor structure in the social support and the fivefactor structure in the family health scales. However, the family functioning scale yielded the three-factor structure versus the four-factor structure in the original scales. The Cronbach's alpha for the three scales varied from 0.85 to 0.94.

#### Conclusion

The adapted FAFHES seems to be valid and reliable to measure family functioning, family health, and social support in families with HF.

#### **Keywords**

family functioning health social support





### Effectiveness of health literacy index based nurse-lead education in reducing 30-day readmission of patients with heart failure: A **Randomized Clinical Trial Study**

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#### Introduction

Heart failure is a clinical syndrome that has become a global epidemic and a public health problem. The disorder caused by this disease disrupts the overall function of the person and as a result of this disease, frequent hospitalizations occur. 30 days readmission is associated with high medical costs and is considered an important quality measure in health centers. The present study was conducted with the aim of investigating the effect of health literacy index based nurse-lead education on readmission in heart failure.

#### **Materials and Methods**

The current study is a randomized clinical trial that was conducted in Amini Hospital in Langrod and on 90 patients with heart failure who were being discharged from the hospital. Patients were divided into two control and intervention groups by random block allocation. In the test group, 3 sessions of individual classes and 2 sessions of group training workshops were held once a week based on the health literacy index. Control group patients received routine clinic care. The health literacy questionnaire for heart failure before the intervention and the rate of readmission were examined in both groups. Data were analyzed by SPSS version 16 software.

#### Results

The average health literacy in the control group was 26.64 with a standard deviation of 4.62 and in the test group was 26.31 with a standard deviation of 4.31, and the two groups did not have a significant difference before the intervention (P-Value=0.725). The results of statistical analyzes showed that the readmission of patients in the test group after the intervention was significantly reduced compared to the control group (P-Value=0.04).

#### Conclusion

Health literacy index based nurse-lead education have a significant effect on reducing readmission after 30 days in heart failure patients. The results of this study and the designed intervention can be used to improve favorable outcomes in heart failure patients.





### Keywords

health-literacy-index, nurse-led, readmission, heart failure







# **COVID-19 Outcomes in Heart Transplant Recipients: A Single-Center Case Series**

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#### Introduction

With the rapidly expanding pandemic of severe acute respiratory syndrome coronavirus-2, a chronic immunosuppressed state in solid organ transplant recipients is a concern. We reported coronavirus disease 2019 in heart transplant recipients and described the patient's course from diagnosis to either hospital admission or improvement in symptoms.

#### **Materials and Methods**

Case presentation: This study retrospectively identified 13 white (Iranian) heart transplant patients with coronavirus disease 2019 between December 2019 and October 2020. The mean age of patients was 43.7 years (19-65), 7 (70%) were men. Laboratory and treatment data were collected for those admitted or managed as outpatients. Outcomes were also recorded for all patients. This report demonstrates a range of symptoms, clinical severity, and disease course in heart transplant recipients with COVID-19, including ten hospitalized patients and three patients, managed entirely in the outpatient setting. One patient passed away and none of them experienced an episode of clinically overt rejection.

#### Results

#### Conclusion

We would like to emphasize the importance of being alert in these patients to consider testing in a broad range of clinical presentations and gathering more data for better management.

#### **Keywords**





Covid-19, Heart-transplantation, Solid-organ transplantation, Immunosuppression





Shahid Beheshti University



### The COVID-19 infection in heart transplant recipients: a Cohort study

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#### Introduction

Infectious diseases are major complications after solid organ transplantation. Heart transplant patients have a high mortality rate after severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. Coronavirus disease 2019 (COVID-19) vaccines have shown efficacy in generating specific immune responses. This study aims to describe the COVID-19 infection before and after vaccination in heart transplant recipients.

#### **Materials and Methods**

This was a single-center cohort study including 95 heart transplant recipients with laboratory radiological confirmed COVID-19.

#### Results





COVID-19 infection before vaccination was present in 33 (35.78%) patients. The most frequent COVID-19 clinical presentations before vaccination were cough in 21 (63.63%) and myalgia in 19 (57.57%) patients; 12 (36.36%) were hospitalized; 17 (51.51%) cases had oxygen depletion and required supplemental oxygen; none of them needed invasive ventilation. Of the entire 33 COVID-19 patients, two patients (6.06%) re-experienced the disease about two months after complete vaccination and both of them recovered. 63 heart transplant patients didn't experience COVID-19 before vaccination, of which 59 patients received vaccination. After two months, 23 vaccinated patients were infected with COVID-19 again, and 2 of the 3 people who were not vaccinated were also infected. Five patients passed away in the whole study.

#### Conclusion

Heart transplant patients infected with SARS-CoV-2 are at greater risk of severe infection and death compared with immunocompetent individuals. So, COVID-19 vaccination for all HT recipients is of paramount importance.

#### Keywords

SARS-CoV-2, Immunosuppression, Immunization, Organ Transplantation







### Effects of sodium-glucose co-transporter 2 inhibitors on heart failure outcomes associated with preserved ejection fraction in type 2 diabetes mellitus: a literature review

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#### Introduction

Heart failure (HF) is a clinical syndrome resulting in impairment of ventricular filling or the ejection of blood. Up to 40% of HF patients have concomitant type 2 diabetes mellitus (T2DM), and a similar proportion presents with impaired glucose tolerance, both of which increase mortality. The SGLT-2 inhibitors represent a novel class of antihyperglycemic agents that have proven their ability to reduce major cardiovascular (CV) outcomes in at-risk patients with T2DM.

#### **Materials and Methods**

#### Results

Several studies demonstrated a reduction in CV events and in hospitalization for heart failure in patients with T2D and atherosclerotic CV disease, multiple CV risk factors, or diabetic nephropathy.

#### Conclusion

This review suggests that in patients with type 2 diabetes and high CV risk, empagliflozin, given in addition to standard of care, reduced heart failure hospitalization, and CV death.

#### **Keywords**





HFpEF, Empagliflozin, HeartFailure, SGLT-2inhibitors







### Pregnancy after Heart and Kidney Transplantation: a Case Report

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#### Introduction

The risks of pregnancy-associated complications are considerably elevated in transplant recipients compared to the general population, and it should be managed aggressively to preserve the allograft function and avoid complications. In the present case report, we described a 24 years old woman with a transplanted heart and kidney who got pregnant after six years.

#### **Materials and Methods**

#### Results





Case presentation: A 24 years old female who was diagnosed with congenital dilated cardiomyopathy (DCM) and end-stage renal disease (ESRD) due to reflux nephropathy underwent combined heart and kidney transplantation. In her follow-up, she experienced pregnancy after six years. Afterward, a multi-disciplinary team of different specialists monitored the pregnancy and after 40 weeks of pregnancy, a cesarean section was performed with obtaining a live female sex newborn with a weight of 2450 grams, height of 50 centimeters, and Apgar score of nine, without any congenital malformations. During six years of follow-up, there was no complication with allografts especially rejection, and also normal child's growth and development without any malformations and congenital disorders were observed.

#### Conclusion

The successful outcome of pregnancy in this woman could be due to the proper cooperation between the medical team and patient, and also the appropriate timing of pregnancy.

#### **Keywords**

Pregnancy, Heart-transplantation, Kidney-transplantation







### Sexual health literacy among Iranian patients with cardiovascular disease: Exploring the perceptions, experiences, and challenges

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#### Introduction

Sexual health literacy (SHL) is an important aspect of overall well-being, including for individuals with cardiovascular disease (CVD). This study aims to explore the various dimensions of SHL among Iranian individuals with CVD.

#### **Materials and Methods**

A qualitative content analysis research was designed with 25 semi-structured interviews conducted with a purposive sample of patients diagnosed with CVD, including both men(n=15) and women (n=10). Participants were recruited from diverse backgrounds, representing different age groups, and referred to health comprehensive centers located in Tehran for routine checkups. The interviews were conducted by a trained assistant and were transcribed and analyzed using directed content analysis.

#### Results

Three main categories and six subcategories were explored. "Knowledge and awareness", "experiences and challenges", and "the importance of communication" were the main categories, and the "impact of CVD on sexual health", "lack of Information", "maintaining sexual intimacy and satisfaction", "common challenges", "the importance of communication", and "desire for open discussions" were the main explored subcategories.

#### Conclusion

Findings highlight the need for more education and awareness of the impact of cardiovascular disease on sexual health. There is clearly a need for comprehensive sexual health information, including guidance on managing sexual concerns and maintaining intimacy following a CVD diagnosis.

#### **Keywords**

Sexual Health Literacy, Cardiovascular Disease