



# 3-CÜ ÜRƏK ÇATIŞMAZLIĞINDA Yeniliklər Konqresi

28 - 29 İYUN 2024  
YENİ KLİNİKA, BAKI - AZƏRBAYCAN  
Yeni Klinika, Konfrans Zalı

Ürək çatışmazlığında reabilitasiya  
*Rehabilitation in heart failure*



**8-Cİ SESSİYA**  
15:00 - 16:15



**Sona Qəhrəmanova**

Düşgünlük - ÜÇ xəstələrində yeni vital əlamətdir  
*Frailty is the new vital sign in HF*



**29 İyun 2024**  
15:00 - 15:15



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# DÜŞKÜNLÜK

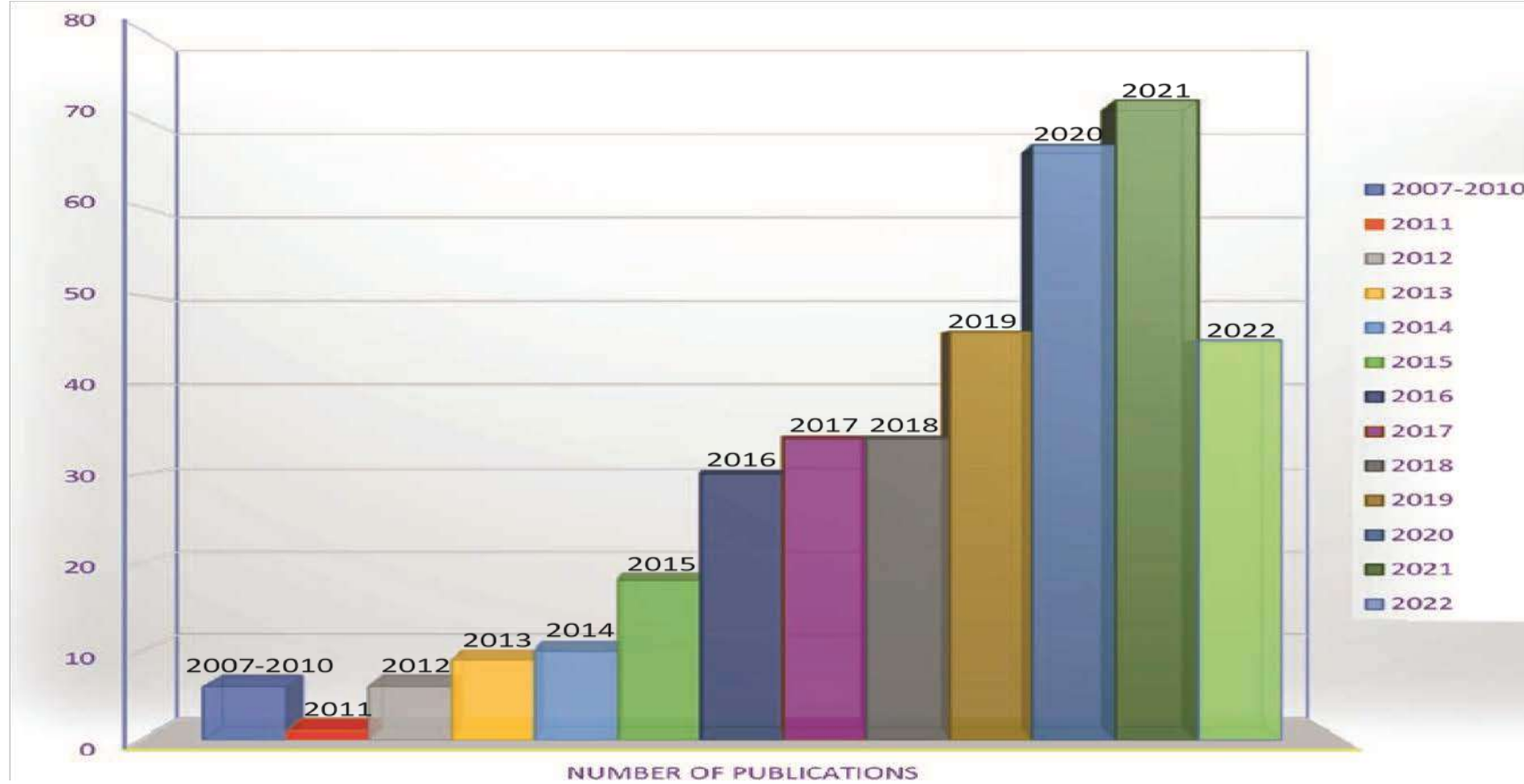
ZEVS

TİFON

yavaşlıq  
yorğunluq  
zəiflik  
aşağı fiziki aktivlik  
büzülmə



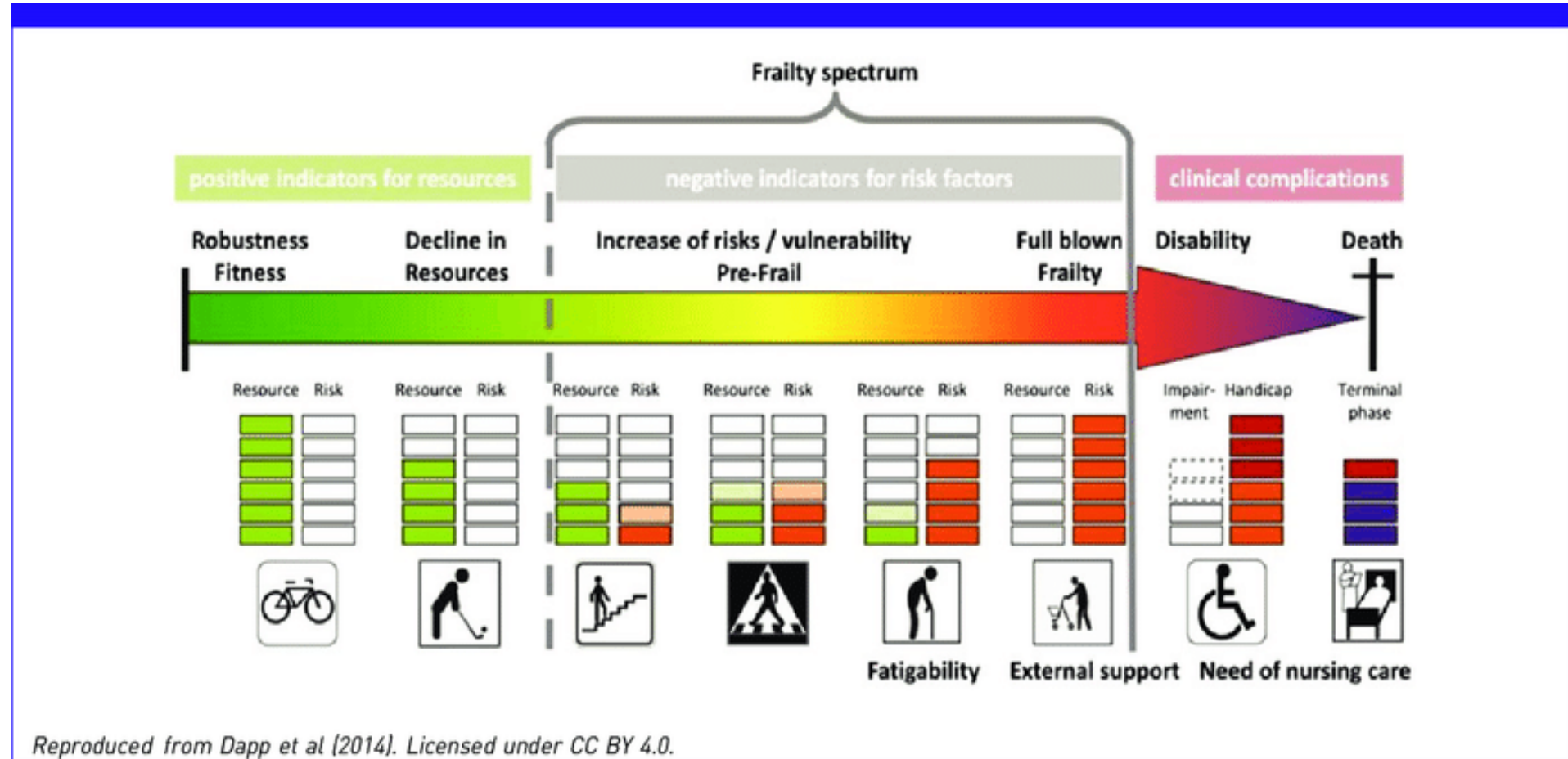
# ÜÇ zamanı düşkünlük



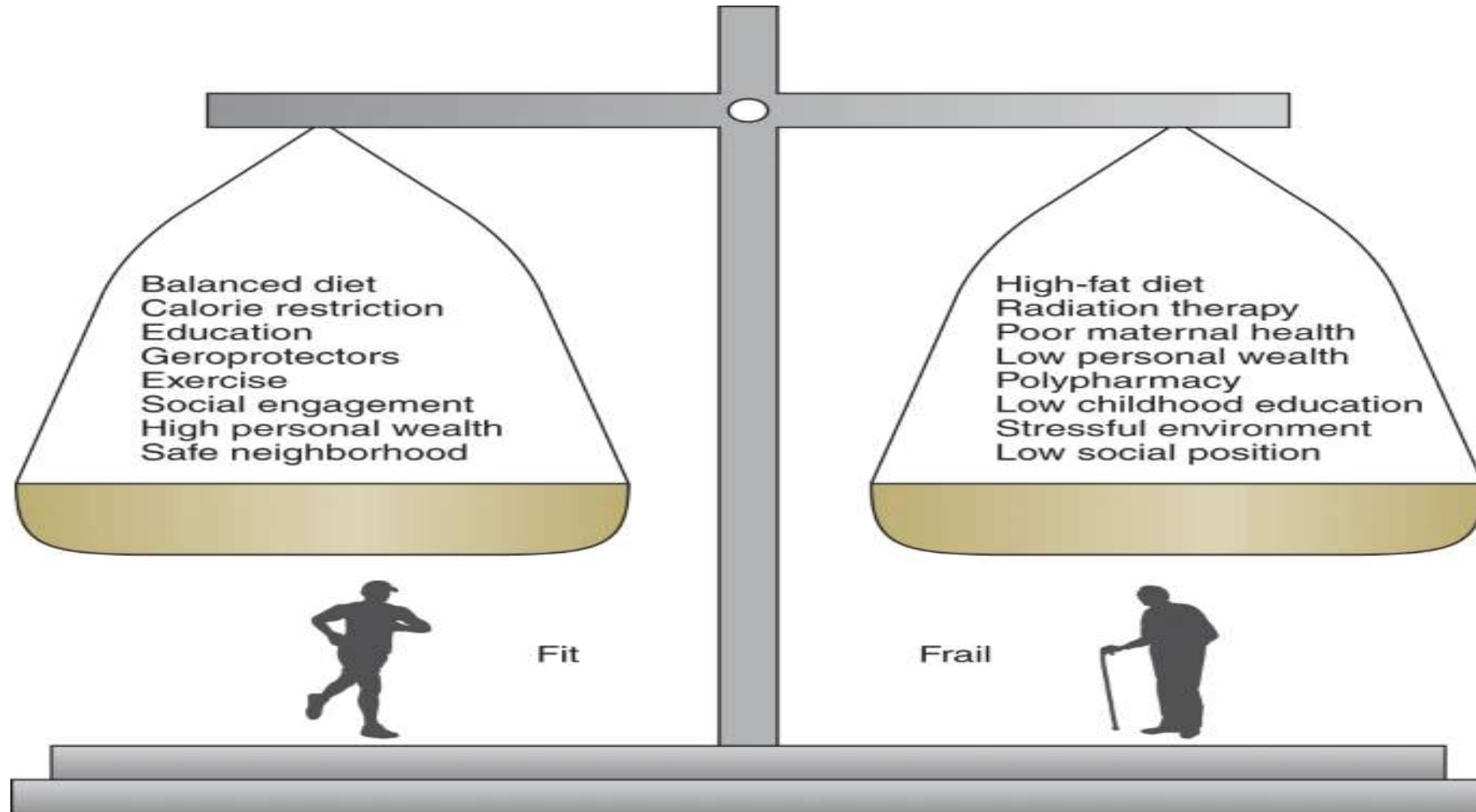
**FIGURE 1.** The publication trend of frailty syndrome in heart failure patients from 2007 to 2022

The pattern of the frailty syndrome in chronic heart failure Ref: Ro J Med Pract. 2023;18(2) DOI: 10.37897/RJMP.2023.2.2

# Düşkünlük spektri



## Düşkünlüyə təsir edən əsas faktorlar



# Düşkünlüğün yaranma mexanizmi

## Molecular & Disease

Oxidative stress  
Mitochondrial deletions  
Shortened telomeres  
DNA damage  
Cell senescence

Gene  
variation

Inflammatory  
diseases

## Physiologic Impairment

*Anorexia, Sarcopenia, Osteopenia* →

- ↑ Clotting
- Glucose dysregulation

*Inflammation* →

- ↑ Interleukin-6
- Immune dysfunction

*Neuroendocrine dysregulation* →

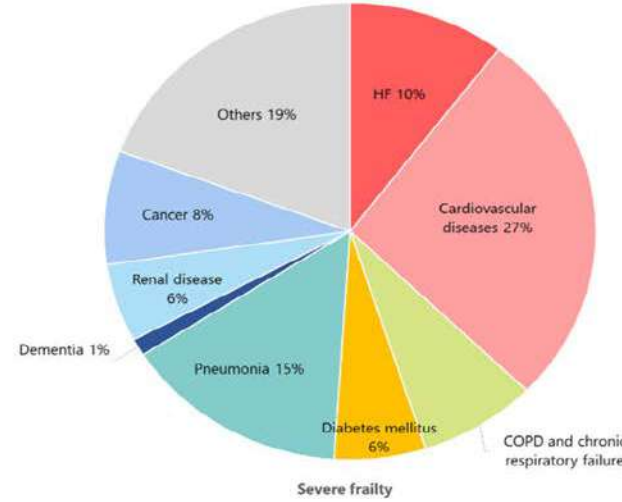
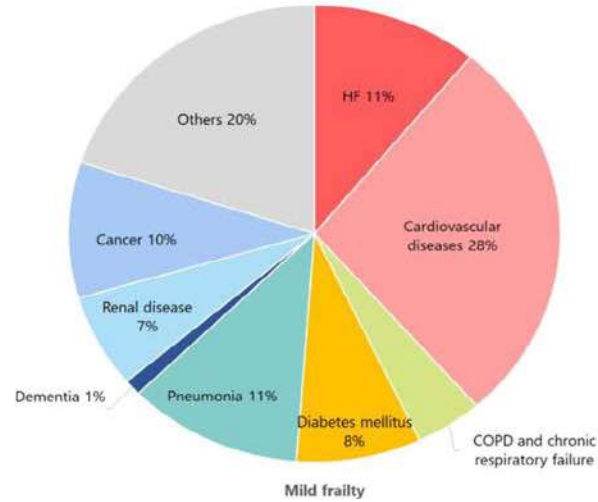
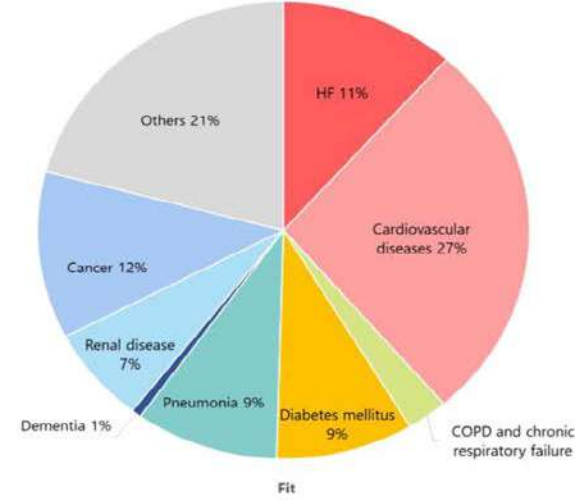
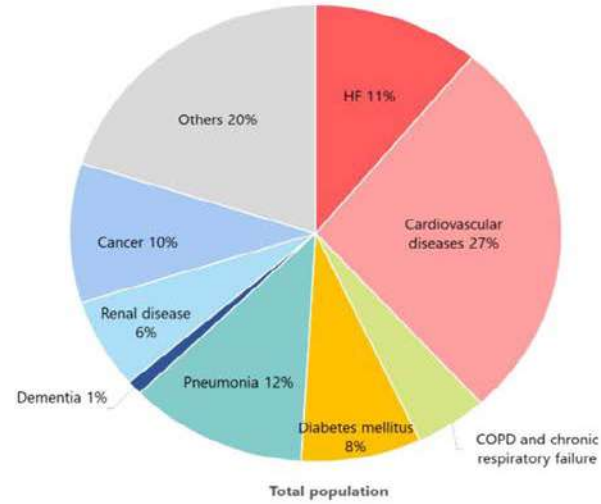
- ↓ Insulin-like growth factor-1
- ↓ Dehydroepiandrosterone-Sulfate
- ↑ Stress hormones

*Cognitive Impairment* →

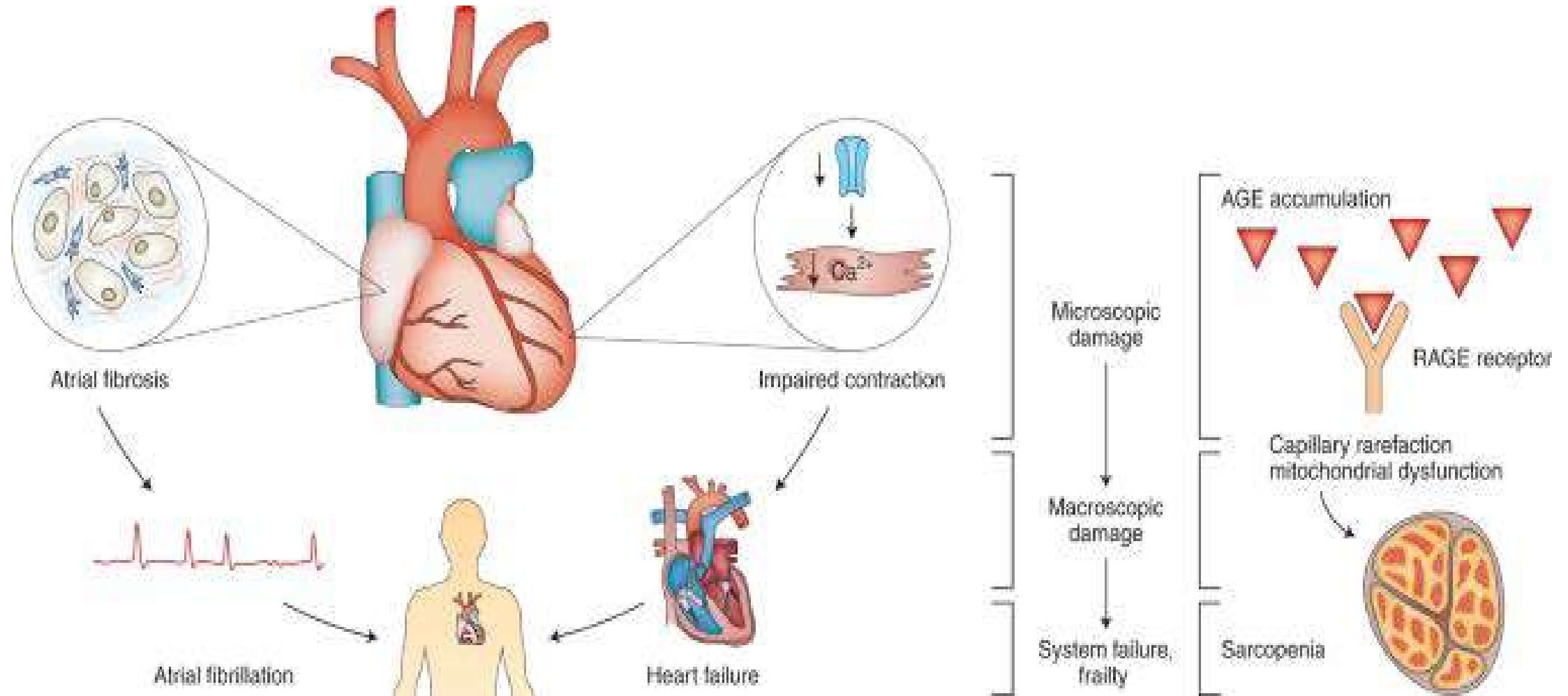
## Clinical Phenotype

Slowness  
Weakness  
Weight loss  
Low activity  
Fatigue

# Düşkünlük statusundan asılı 1 il əzrində ölüm hadisələrinin səbəbləri

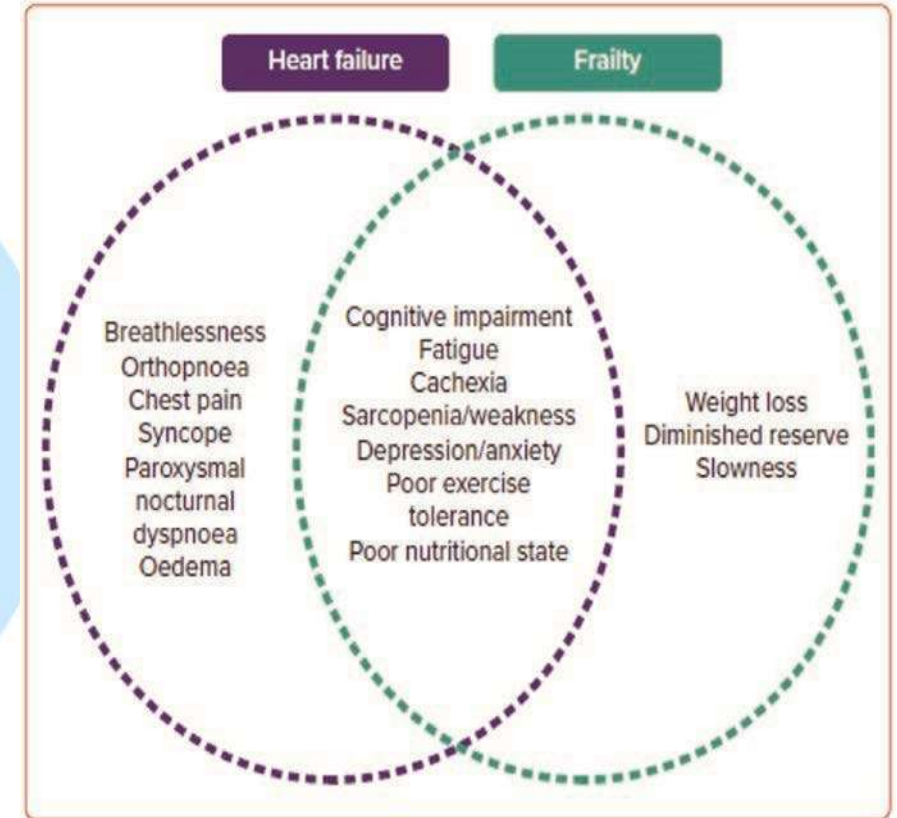
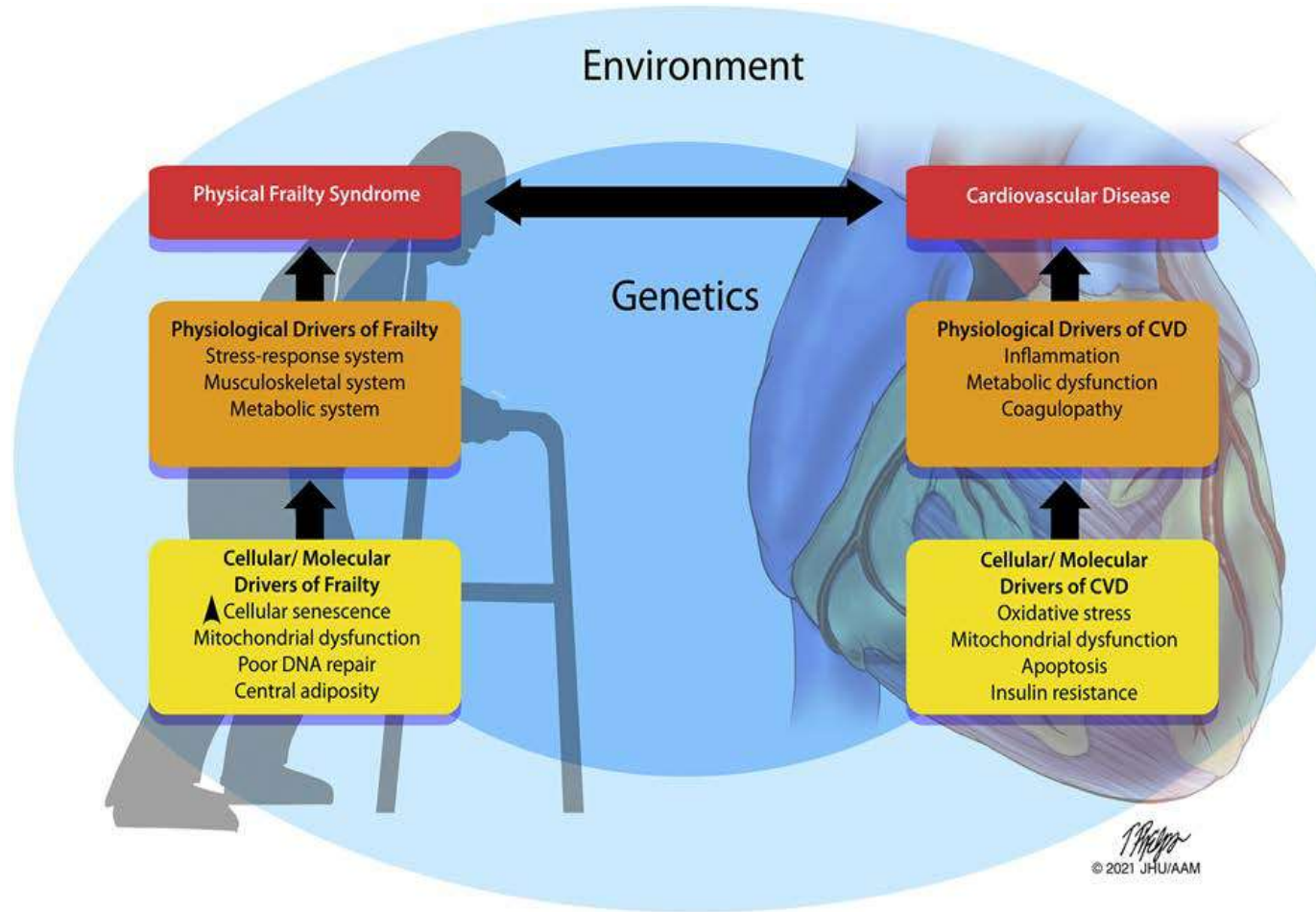


# Ürək çatışmazlığı zamanı düşkünlük əlamətləri hüceyrə səviyyəsində əmələ gəlir

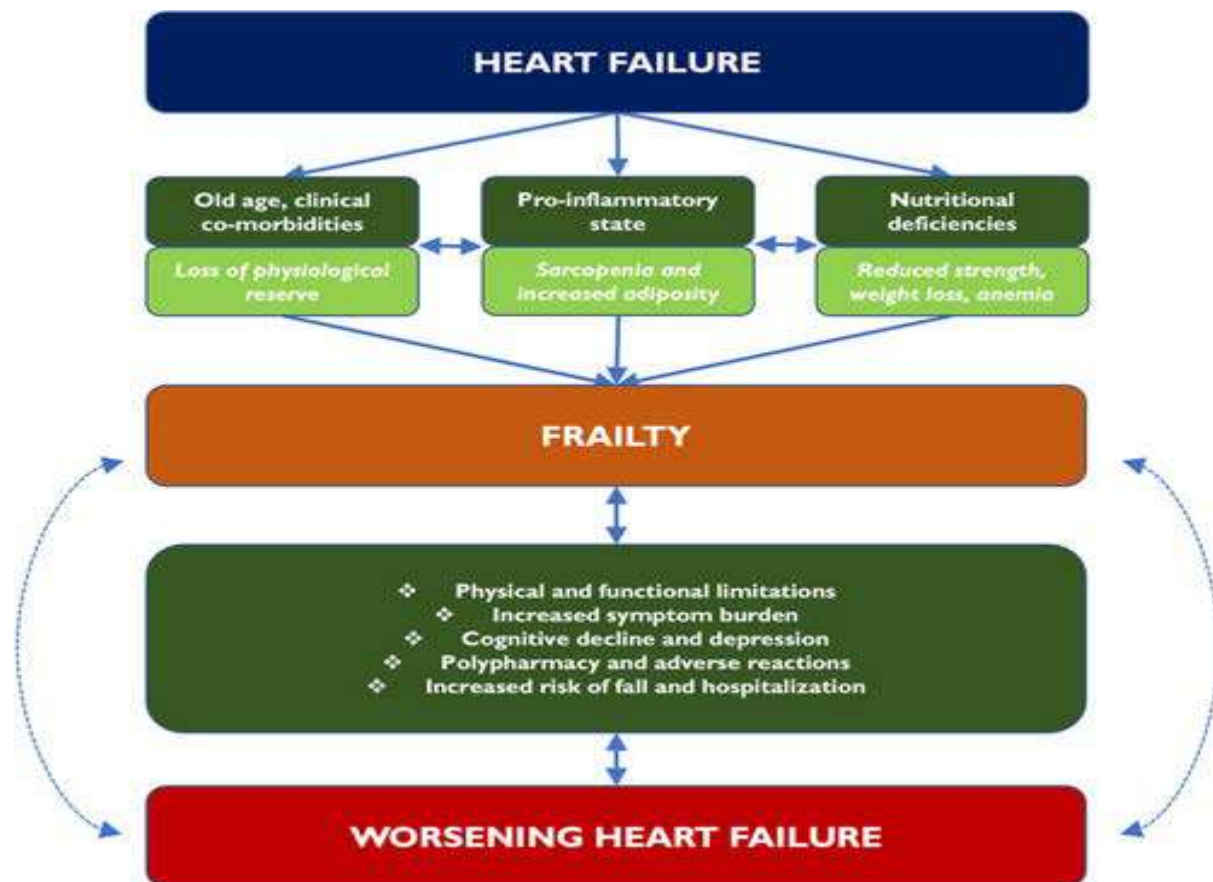




# Düşkünlüyün və ürək çatışmazlığının nəzəri modeli



# Ürək çatışmazlığının düşkünlüklə qarşılıqlı əlaqəsi



# Ürək çatışmazlığı zamanı düşkünlük: səbəblər və nəticələr

## Frailty in patients with heart failure: causes and consequences



### Comorbidities

- Neurologic disease
- Kidney disease
- Diabetes mellitus
- Depression/anxiety
- Inflammatory conditions
- Mobility impairment
- Cognitive impairment
- Anaemia
- Coronary disease
- Respiratory disease
- Thyroid disease
- Chronic pain
- Liver disease
- Musculoskeletal disease



### Polypharmacy



### Environmental risks

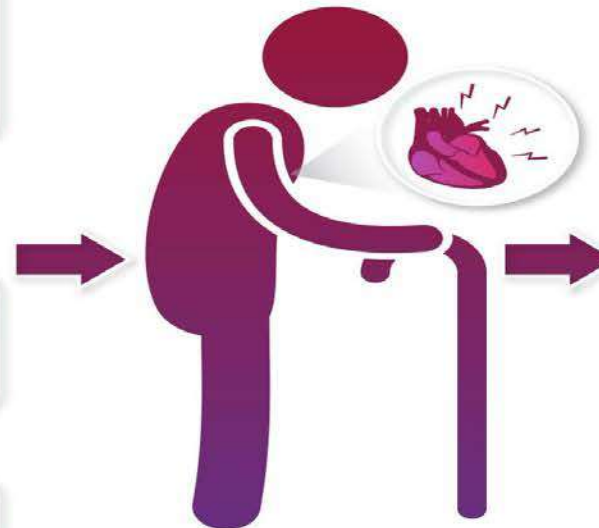
- Poor nutrition
- Reduced activity/deconditioning
- Social isolation



### Age-related changes

- Cellular senescence
- Mitochondrial dysfunction
- Neurodegeneration
- Hormonal deficiencies

### Heart failure and frailty



Frailty is common in heart failure

Can occur in any patient subgroup

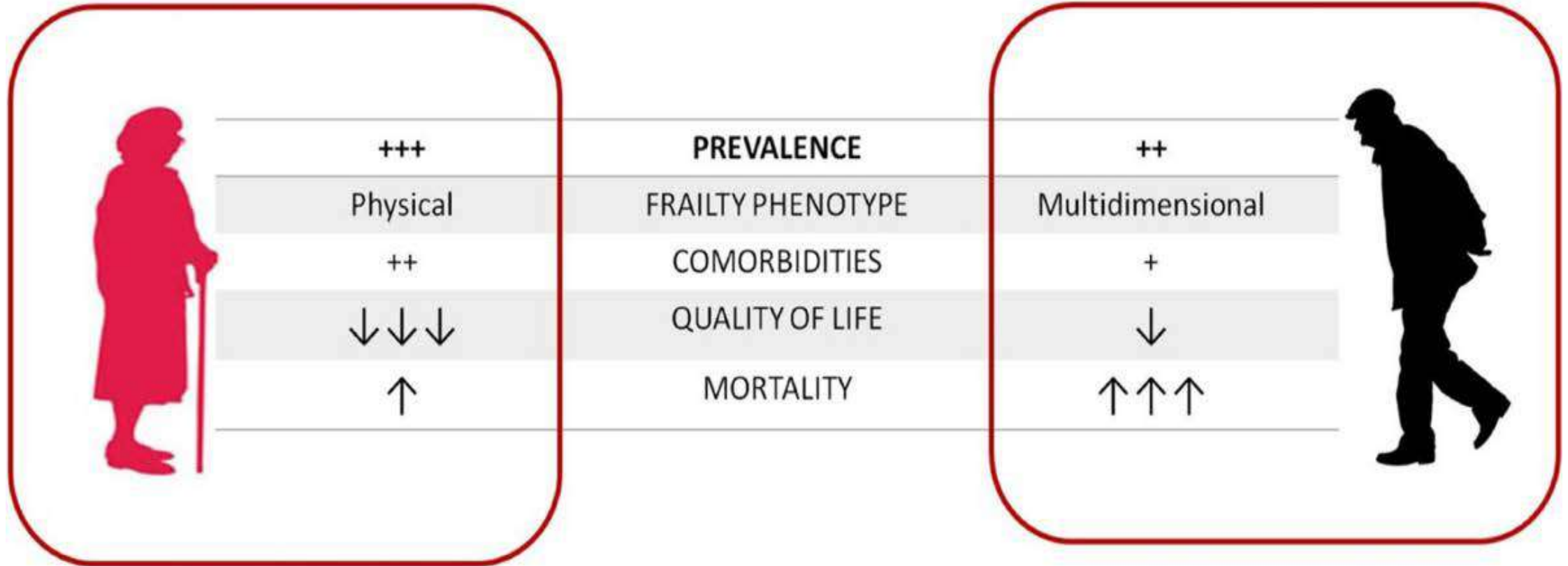
Results in poorer functional status

Associated with poorer outcomes in all subgroups

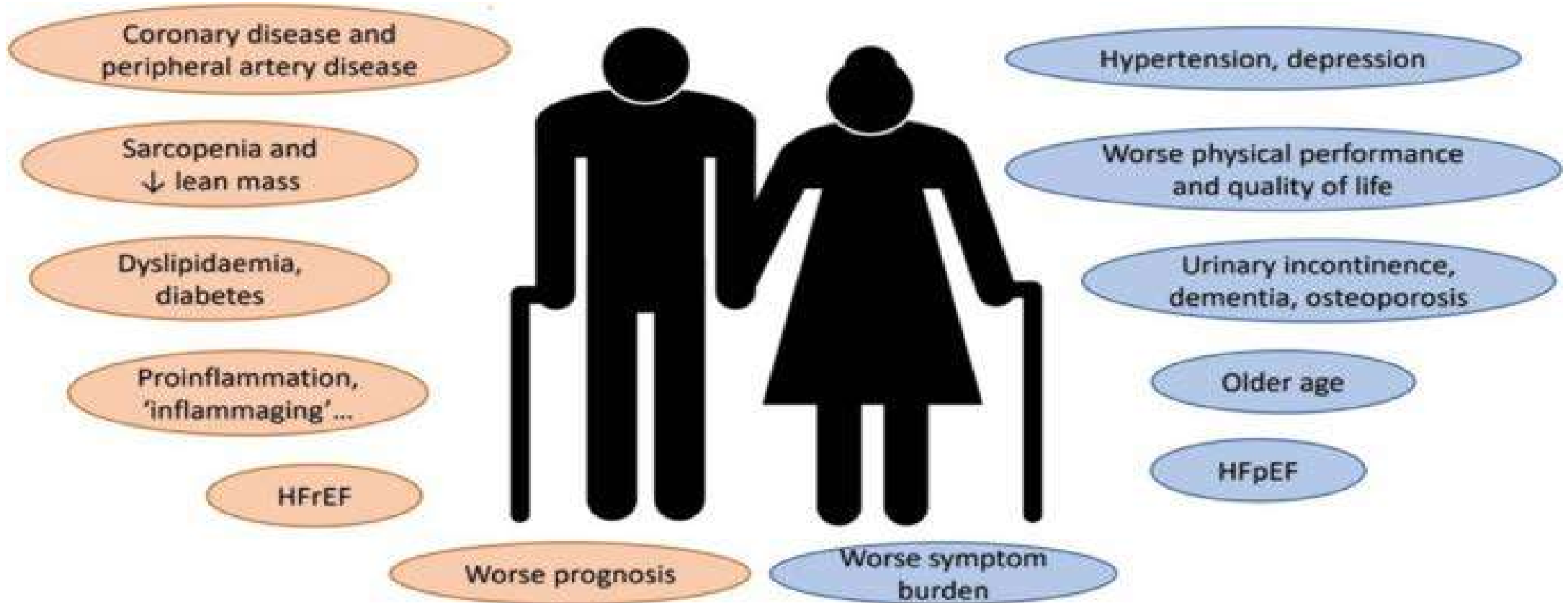
Prognostic factor independent of generic or heart failure-specific risk scores

# Ürək çatışmazlığı zamanı düşkünlük

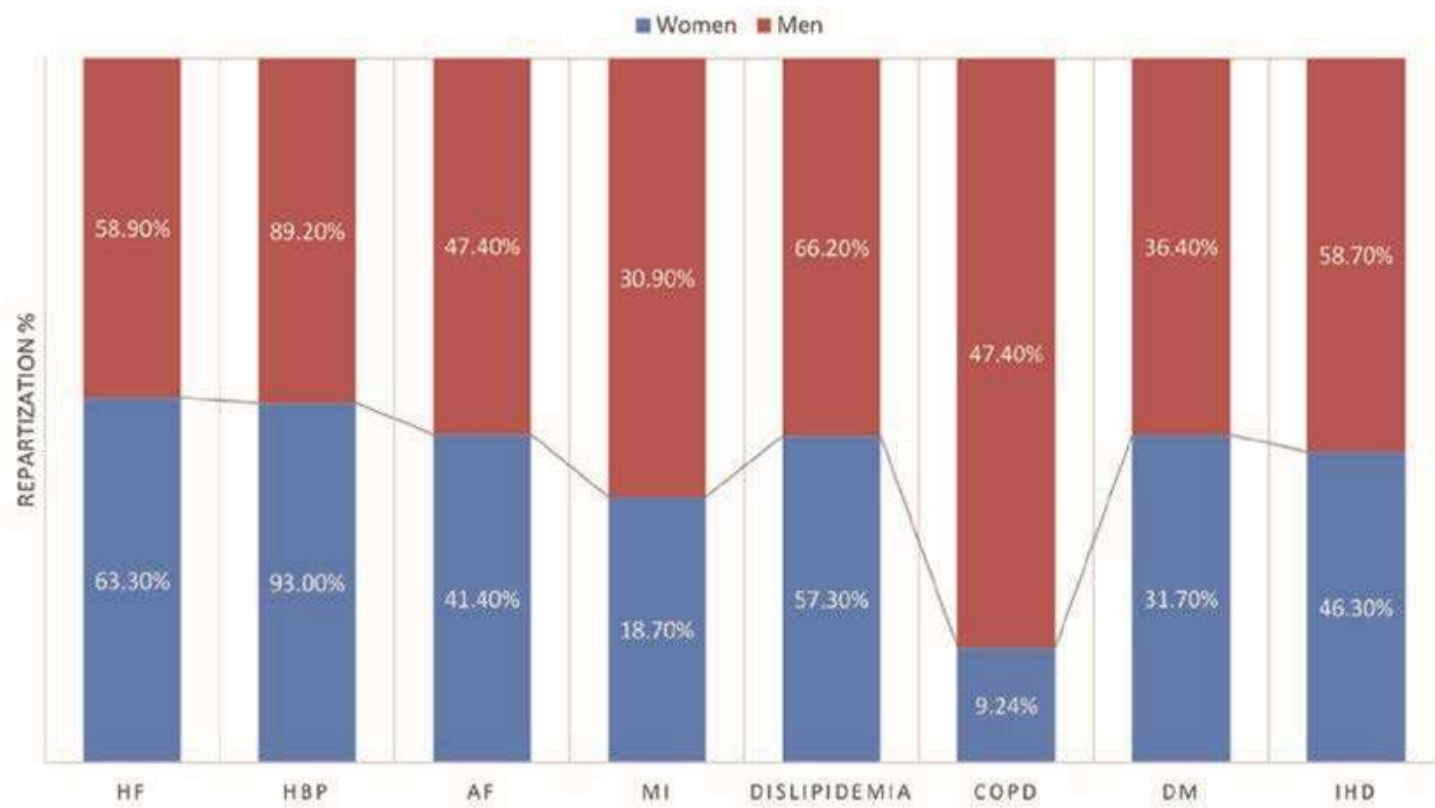
## FRAILTY IN HEART FAILURE



# Düşkünlüğün ürək çatışmazlığının proqnozuna təsiri



# Ürək çatışmazlığı ilə düşkünlüyü olan insanlar arasında cinslə bağlı fərqlər



The pattern of the frailty syndrome in chronic heart failure Ref: Ro J Med Pract. 2023;18(2) DOI: 10.37897/RJMP.2023.2.2

# Ürək çatışmazlığı zamanı düşkünlüyün skriningi üçün istifadə olunan alətlər

## Physical Frailty Phenotype

**Unintentional weight loss:** >5% body weight unintentionally in last year, or BMI < 18.5kg/m<sup>2</sup>

**Exhaustion:** felt unusually tired or unusually weak 'all of the time' or 'most of the time' or reported energy level was ≤3

**Low Activity:** < 128 kcal (men) or <90 kcal (women) of energy expenditure based on 6 self-reported questions

**Slowness:** Average walking speed over 4-meter course:  
Men ≤ 0.65m/s for height ≤173 cm or ≤0.76m/s for height >173cm.  
Women: ≤0.65m/s for height ≤159cm or ≤0.76m/s for height > 159cm

**Weakness:** Maximal grip strength:  
Men: ≤29kg for BMI ≤24; ≤30kg for BMI 24.1-28; ≤32kg for BMI >28.  
Women: ≤17kg for BMI ≤23; ≤17.3kg for BMI 23.1-26; ≤18kg for BMI 26.1-29; ≤21 kg for BMI > 29.

**Scoring:** Frail = 3+ criteria met; prefrail = 1-2 criteria met; non-frail if 0 criteria met.

## Essential Frailty Toolset

**Chair stands:** 5 rises > 15 seconds (1 point) or unable to complete (2 points)

**Cognitive Impairment:** MMSE score ≤24 (1 point)

**Hemoglobin:** < 13.0 (men) or 12.0 (women) g/dL (1 point)

**Serum albumin:** <3.5 g/dL (1 point)

**Scoring:** 0 (least frail) to 5 (most frail) points

## Deficit Accumulation Index

**30-40 deficits** - defined as symptoms, signs, disabilities and diseases.

**Each deficit** is scored as binary (0 or 1) or can be graded (e.g., 0, 0.5, 1)

**Examples of deficits** include: disability; cognitive or physical impairments, co-morbidities, self-rated health, depression/mood.

**Scoring:** the ratio of deficits present over the total number of deficits included (e.g., if 10 out of 40 deficits total, the index score = 0.25).

**Scoring:** A person with frailty index score of ≥0.2 is deemed frail.

# Düşgünlüyün Frid modeli

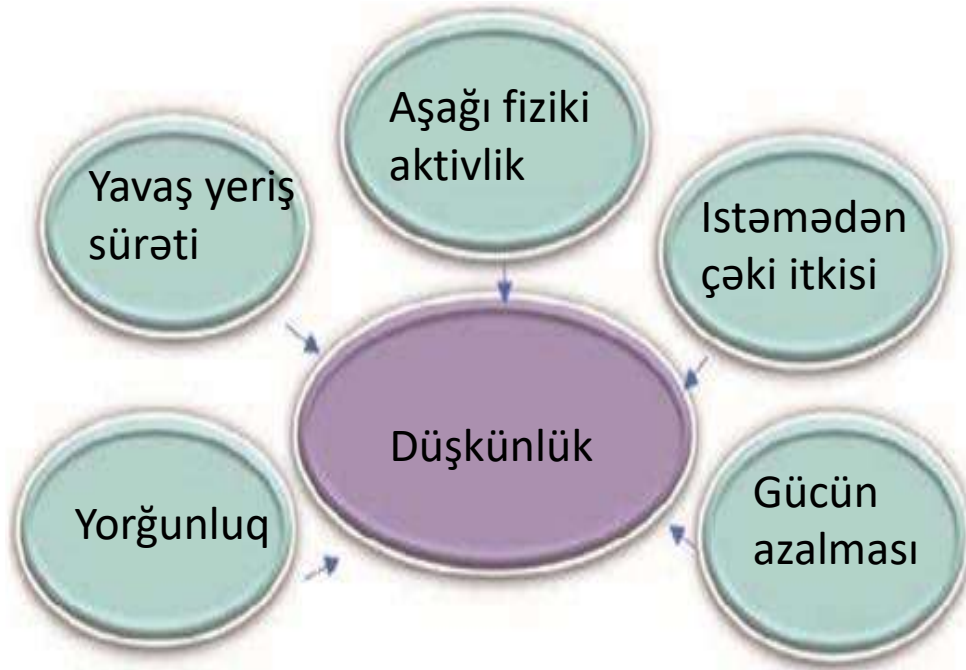


TABLE 1

**Fried frailty model (Fried et al. [4])**





Components of frailty (criteria)	Assessment
Unintended weight loss in past year >4.5 kg	0 component present: robust 1–2 components present: pre-frail ≥ 3 component present: frail
Self-reported exhaustion	
Weakness (grip strength)	
Slow walking speed	
Low physical activity	

A detailed worksheet in German is available at [www.hs-gesundheit.de/to/frailtyphaenotyp](http://www.hs-gesundheit.de/to/frailtyphaenotyp) (e8).



# Düşkünlüyun «Essential Frailty» modeli

## CENTRAL ILLUSTRATION: Essential Frailty Toolset in Older Adults Undergoing Aortic Valve Replacement

	Five chair rises <15 seconds	0 Points
	Five chair rises ≥15 seconds	1 Point
	Unable to complete	2 Points
	No cognitive impairment	0 Points
	Cognitive impairment	1 Point
	Hemoglobin ≥13.0 g/dL ♂ ≥12.0 g/dL ♀	0 Points
	Hemoglobin <13.0 g/dL ♂ <12.0 g/dL ♀	1 Point
	Serum albumin ≥3.5 g/dL	0 Points
	Serum albumin <3.5 g/dL	1 Point

EFT Score	1-Year Mortality	
	TAVR	SAVR
0-1	6%	3%
2	15%	7%
3	28%	16%
4	30%	38%
5	65%	50%

EFT Points: →

Afilalo, J. et al. J Am Coll Cardiol. 2017;70(6):689-700.

Fig 1. Clinical Frailty Scale



**1. Very fit**  
People who are robust, active, energetic and motivated. They commonly exercise regularly and are among the fittest for their age



**2. Well**  
People who have no active disease symptoms but are less fit than category 1. Typically, they exercise or are very active occasionally, such as seasonally



**3. Managing well**  
People whose medical problems are well controlled but are not regularly active beyond routine walking



**4. Vulnerable**  
While not dependent on others for daily help, often symptoms limit activities. A common complaint is being 'slowed up' and/or being tired during the day



**5. Mildly frail**  
People often have more evident slowing and need help with high-order IADLs. Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework



**6. Moderately frail**  
People need help with all outside activities, housework and cooking. They often need help with stairs and bathing, and might need minimal assistance with dressing



**7. Severely frail**  
People completely dependent for personal care. However, they seem stable and not at high risk of dying (within ~6 months)



**8. Very severely frail**  
People completely dependent and approaching the end of life. Typically, they could not recover even from a minor illness



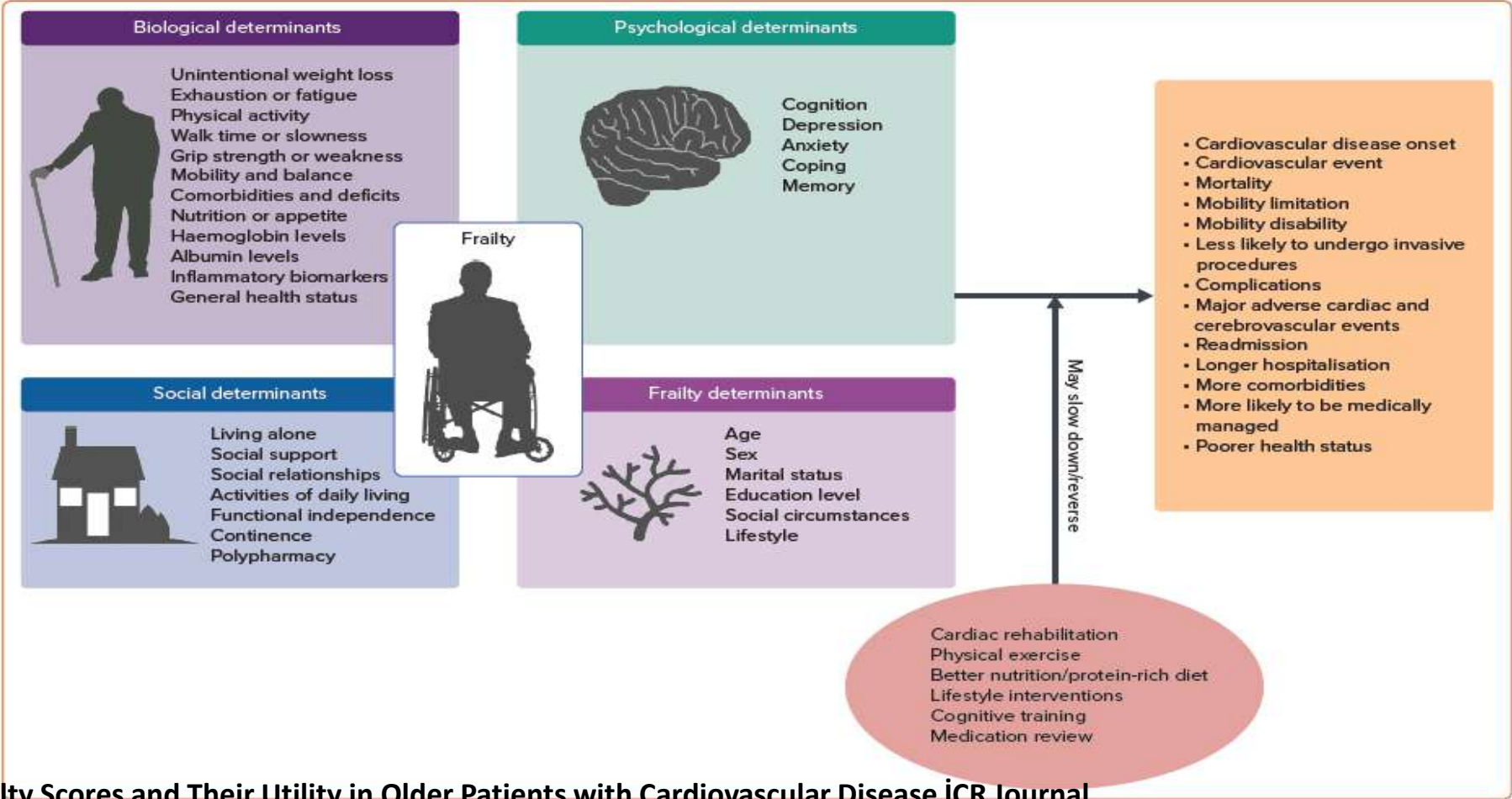
**9. Terminally ill**  
People approaching the end of life. This category applies to people with a life expectancy of <6 months, who are not otherwise evidently frail

IADL = instrumental activity of daily living (such as finances, transport, heavy housework or medications)

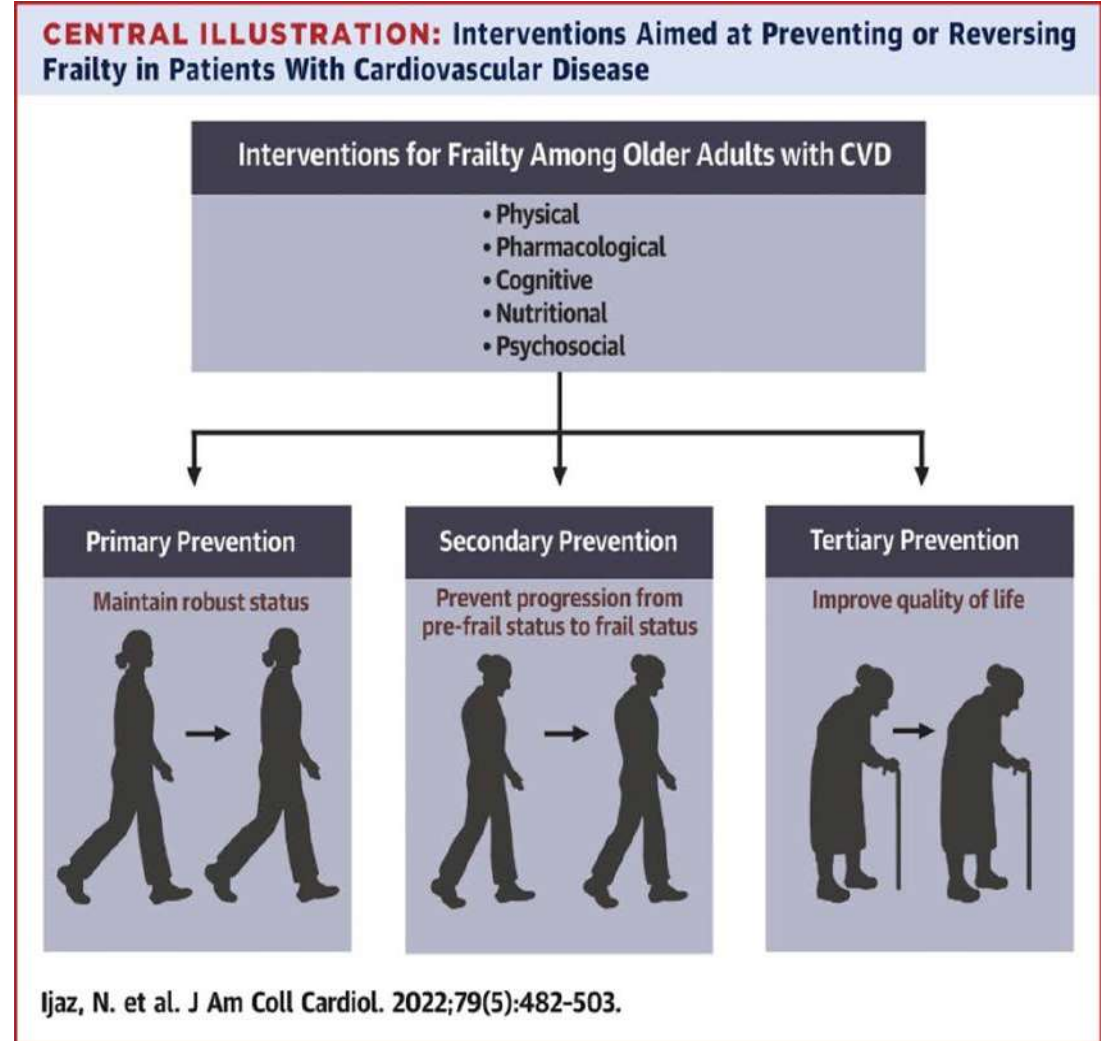
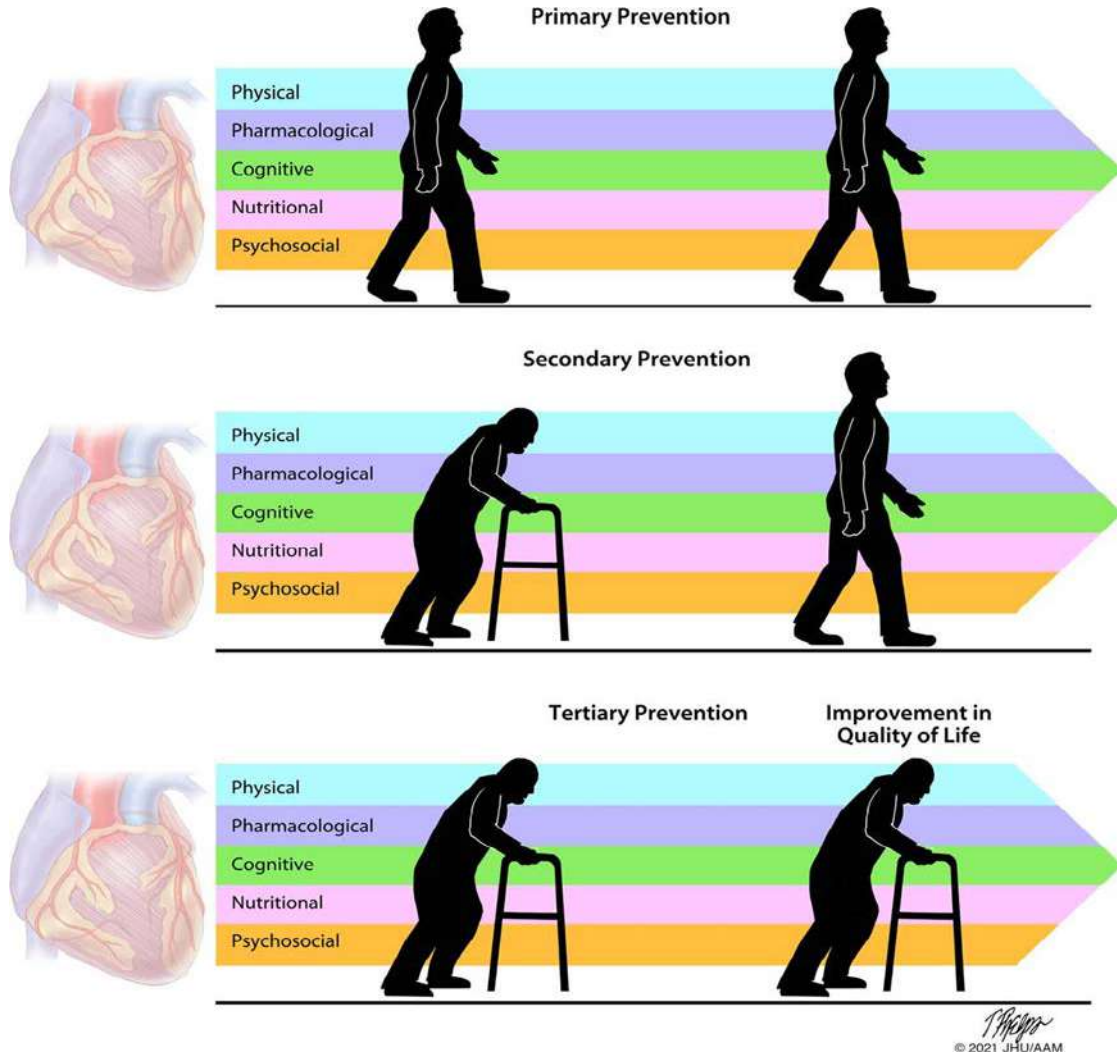
Source: Rockwood et al (2005)

# Düşkünlüğün düzgün hertərəfli qiymətləndirilməsi ürək çatışmazlığı riskini azaldır

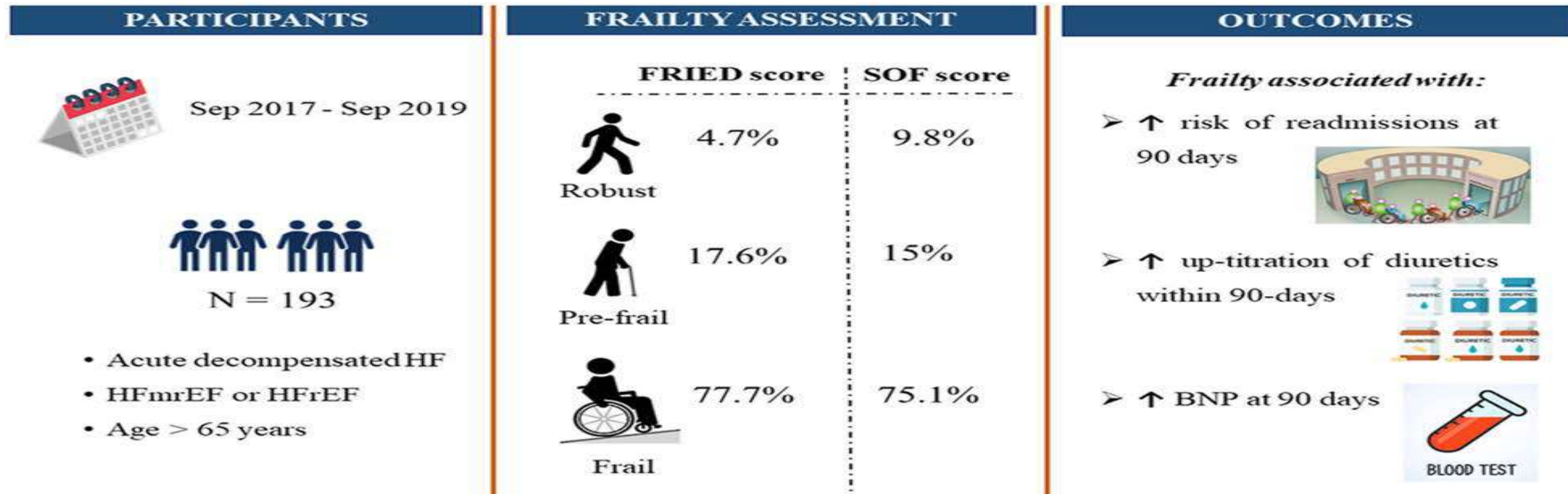
Figure 1: Multidimensional Assessment of Frailty and Interventions to Reduce Cardiovascular Risk



# Ürək çatışmazlığı zamanı düşkünlüyün azalmasına yönələn tədbirlər

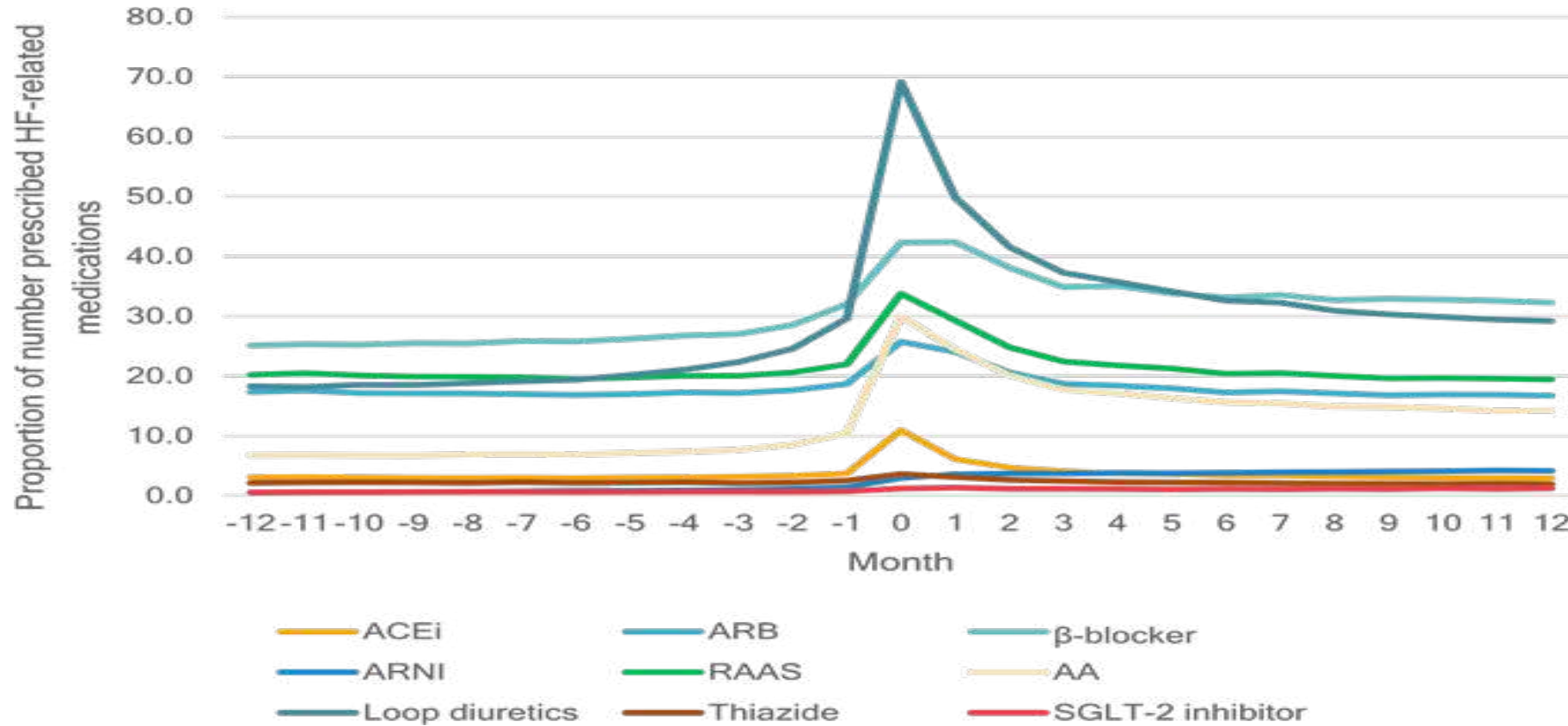


# Düşgünlük və ürək çatışmazlığı



Assessment of frailty and related outcomes in older patients with heart failure: A cohort study Hellenic Journal of Cardiology 67 (2022) 42e47

# Düşüklüyükün ağırlıq dərəcəsi artdıqca ürək çatışmazlığının müalicəsində istifadə olunan dərman preparatların sayı azalır



The burden of frailty in heart failure: Prevalence, impacts on clinical outcomes and the role of heart failure medications  
Journal of Cachexia, Sarcopenia and Muscle (2024)

**DIQQƏTİNİZƏ GÖRƏ TƏŞƏKKÜR EDİRƏM**

