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Project Title:
Chronic heart failure: Anemia, Patient Perceived Burden of Treatment and Adherence to Iron Intake Pattern and Relation with Anemia in Oromia Region, Ethiopia
Outlines of Presentation

- Rationale
- Project objective
- Methods
- Study plan & Progress
- References
Rationale

- 72% deaths globally, Non-communicable diseases (NCD) in 2016
- Near to 80% of deaths occur in LMICs
- Cardiovascular diseases (CVD), leading causes of death (32%) in 2016
- Chronic Heart failure (CHF) is the consequences of CVD
Rationale...

- Anemia is most common comorbid condition linked with CHF (Al-Ahmad et al., 2001; McClellan, Flanders, Langston, Jurkovitz, & Presley, 2002; Okonko & Anker, 2004)

- In sub-Saharan Africa, it ranges from 6 to 64% (Horwich, Fonarow, Hamilton, MacLellan, & Borenstein, 2002)

- In Ethiopia, 42% of CHF had anemia (Abebe, Gebreyohannes, Bhagavathula, Tefera, & Abegaz, 2017)

- Consequences of anemia:
  - Death,
  - repeated hospitalization,
  - lose of productivity &
  - poor quality of life
  - Economic burden
Iron supplementation is recommended as crucial intervention (Cavill, 2003; Mancini et al., 2003; McMurray et al., 2012).

However, anemia remains high due to low prescription, poor absorption and adherence (Bansilal, Castellano, & Fuster, 2015; Yancy et al., 2013; Yusuf et al., 2011; Palleschi & Nunziata, 2017).

Efforts were made:
- To identify facilitators for poor adherence &
- Implement self-care programs

Despite the efforts, however, anemia still remains high (Abebe et al., 2017; Horwich et al., 2002).

This could be due to:
- Multiple medications (pill burden)
- Patient’s perception towards- pill burden (burden of medication)
Rationale...

People with heart failure face risks in taking multiple drugs

Drug Groups Commonly Used in Heart Failure

- Diuretics
- Aldosterone receptor antagonists
- Angiotensin-converting enzyme (ACE) inhibitors
- Angiotensin receptor blockers (ARBs)
- β blockers
- Cardiac glycosides
- Vasodilators
- β agonists
- Bipyridines
- Natriuretic peptide
Rationale...

- However, relationship of patient’s perceived burden of medication with:
  - Adeherence to iron intake &
  - Anemia is not still uncoverd
- Therefore the aim of this project is to determine:
  - Prevalence of anemia in CHF
  - Growth pattern of patient’s perceived burden of treatment and adherence to iron intake
  - Relationship of patient’s perceived burden of medication with adherence and anemia
Methods: setting, design, population

- The study will be done in referral hospitals in Oromia region, Ethiopia
- Multi-methods (cross sectional and cohort study) will be used
  - Cross sectional-Anemia
  - Cohort (longitudinal)-other aims

- Phase I(cross sectional) & II (cohort)
- Population-cross sectional study
  - newly diagnosed HF adults
- Population-cohort
  - newly diagnosed HF anemic adults willing to take iron

Sample:
- 395 HF adults-cross sectional
- 783 HF adults-cohort
- Oromia-referral hospitals 30% - HF adults SRS
Methods...measurement, analysis and ethics

- Primary outcome-anemia $0, 4, 6m$
- Secondary outcome-adherence $2, 4, 6m$
- Exposure-perception $0, 2, 4, 6m$
- Covariates-other confounders $0m$
- Follow up duration-6 months
- Data analysis-descriptive and Generalized Estimation Equation (GEE)
- Ethics-written informed consent-sought

![Diagram](image.png)

Figure 1. Patients’ perceived burden of treatment expected relation with adherence to iron and anemia
### Table 1: Summary of PhD course and research project plan and progress, from 2017-2020

<table>
<thead>
<tr>
<th>Project activities</th>
<th>Year 1 (Sept, 2017/18)</th>
<th>Year 2 (Sept, 2018/19)</th>
<th>Year 3 (Sept, 2019/20)</th>
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<tbody>
<tr>
<td>PhD protocol development</td>
<td>0.6 month</td>
<td>6-12 month</td>
<td>0.6 month</td>
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<td>Ethical approval from UiO (REK)</td>
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<td>6-12 month</td>
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<td>PhD courses at UiO</td>
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<td>0.6 month</td>
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<td>Ethical approval from JU</td>
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<td>6-12 month</td>
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<td>Field work (PhD research project)</td>
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<td>Data analysis, write up and publication</td>
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<td>Kappa preparation and defense</td>
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**Keys**

- Completed activities
- Partially completed
- Not done
Acknowledgment

- I would like to thank:
  - My supervisors
  - Project coordinators
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  - JU
  - Colleagues
Thank You
References


McMurray, J. J. V., Adamopoulos, S., Anker, S. D., Auricchio, A., Böhm, M., Dickstein, K., … ESC Committee for Practice Guidelines. (2012). ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure 2012: The Task Force for the Diagnosis and Treatment of Acute and Chronic Heart Failure 2012 of the European Society of Cardiology. Developed in collaboration with the Heart Failure Association (HFA) of the ESC. *European Heart Journal*, 33(14), 1787–1847. https://doi.org/10.1093/eurheartj/ehs104


