

Management of heart failure in 16 Sub-Saharan African countries : Drugs strategies and 8-year trends The February Study (2016-2023)

Pauline Cavagna¹, Roland N'Guetta², Ibrahima Bara Diop³, Ibrahim Ali Toure⁴, Meo Stephane Ikama⁵, Anastase Dzudie⁶, Elsa Ayo Bivigou⁷, Ichaka Menta⁸, Emmanuel Limbole⁹, Xavier Jouven¹⁰, Marie Antignac¹



Background



- Heart failure (HF) is a growing cause of hospitalization in Sub-Saharan Africa
- The hospital prevalence studies estimate that in SSA, HF is responsible for 9.4% to 42.5% of all medical admission



- However, scarce data are available about drug management of HF in SSA

Objective

To describe in hospital drugs management of HF and 8-year trends in Africa

Material and Methods

- We conducted a **transversal and longitudinal study** in CV department of **36 hospitals from 22 cities in 16 SSA countries** (9 low income: Niger, Guinea, Benin, Mali, Democratic Republic of the Congo (DCR), Chad, Burkina Faso, Togo, Burundi and 7 middle income: Cote d'Ivoire, Senegal, Cameroon, Congo, Soudan, Mauritania, Gabon).
- The **FEBRUARY study** was designed by a multidisciplinary collaborative team of epidemiologists, pharmacists and cardiologists from Africa and France.
- This ongoing observatory included all inpatients in February from each year since 2016.
- Data including **socio-demographic and clinical characteristics, causes of admission, clinical, biological, complementary examinations, medicines and length of stay** were collected by the investigating physicians.
- HF severity was defined according to proportion of Left Ventricular Ejection Fraction (LVEF): **reduced (LVEF ≤ 40%), mildly reduced (LVEF [41-49%] or preserved (LVEF ≥ 50%)**
- All analyses were performed through scripts developed in the R software (4.0.3(2020-10-10)).

Results

Overall, 4935 patients were admitted over the 8 years of the study

HF was the first cause of hospitalization with 2351 (44.8%) patients admitted.

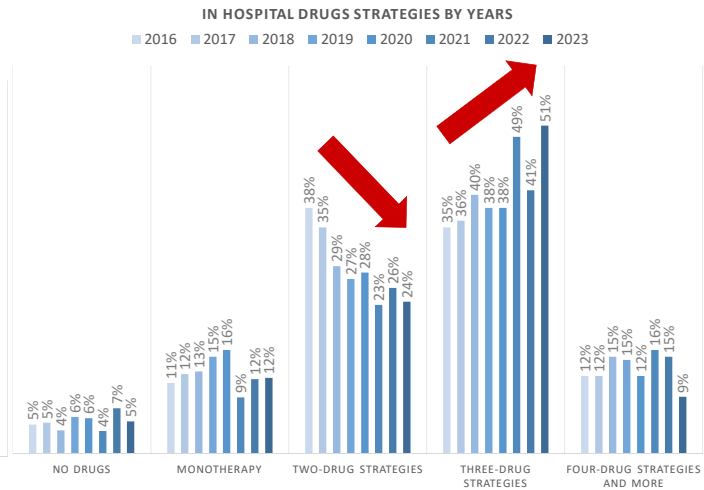
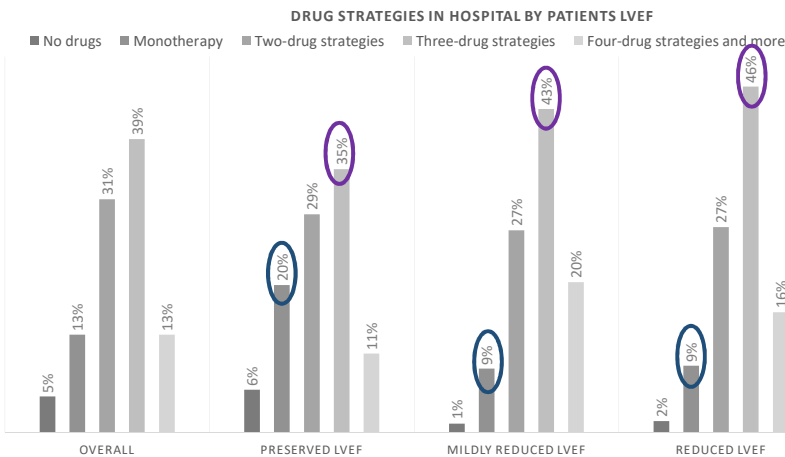
Age 57 years ± 17.5 54% of male

Proportions of patients included for HF varied across countries from 28% Democratic Republic of the Congo to 75% in Guinea

LVEF: Reduced 56%/Mildly reduced 12.5%/Preserved 31.5%

The more reduced the LVEF, the more the drug strategy increased

Proportion of drugs strategies varied according years



- Proportion of drug classes varied significantly according to LVEF (p<0.01) (figure)
- Diuretics, Angiotensin-converting enzyme inhibitors and beta blockers were mostly prescribed in patients with mildly reduced or reduced LVEF
- Mineralocorticoid receptor antagonists were significantly more prescribed in patients with preserved LVEF
- The proportion of beta blockers prescribed increased significantly over the years (p<0.05) from 17% in 2016 to 62% in 2023
- Proportions of drugs strategies differed significantly across countries: Three-drug strategies varied from 27% in Benin to 53% in Chad (p<0.001)

Conclusion

Up-titrated strategies were prescribed according to severity of HF and access to BB increased across years according to international guidelines. However, novel drugs classes remain unavailable in SSA.

1 Pitie Salpetriere APHP University Hospital, Pharmacy, Paris, France, 2 Abidjan Institute of Cardiology, Abidjan, Côte d'Ivoire, 3 FANN UNIVERSITY HOSPITAL, Dakar, Senegal, 4 Cardiology, University Hospital of Lamorde, Niamey, Niger, 5 National University Hospital of Brazzaville, Marien NGOUABI University, Cardiology, Brazzaville, Congo, 6 Cardiac Intensive Care & Cardiac Pacing Unit, Douala General Hospital, Douala, Cameroon, 7, Cardiology department, University hospital of Libreville, Libreville, Gabon, 8 Gabriel Toure University HOSPITAL, Bamako, Mali, 9 Ngaliema Hospital, Cardiology, Kinshasa, Democratic Republic of the Congo, 10 European Georges Pompidou Hospital, AP-HP Centre, University of Paris, Cardiology, Paris, France