Statistical Analysis Plan

Document Control

Title: Statistical Analysis Plan for the Study of SGLT2 Inhibitors in Lupus Nephritis Patients

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1. Introduction

- **Purpose of the SAP**: This document outlines the statistical approach for analyzing data from the clinical trial studying the effects of SGLT2 inhibitors on renal, cardiovascular, and hematological outcomes in lupus nephritis patients.

2. Study Design

Design: Randomized, double-blind, placebo-controlled clinical trial.

Study Duration: Conducted from September 2022 to November 2023

Randomization: Patients were randomly assigned to either dapagliflozin (10 mg once daily) or placebo groups using computer-generated random tables in a 1:1 ratio stratified by age and gender.

Blinding: The study was double-blinded, and all trial staff and participants remained unaware of individual treatment assignments until study completion.

3. Study Objectives

Primary Objective: To evaluate the impact of SGLT2 inhibitors on renal, cardiovascular, and hematological parameters in lupus nephritis patients.

Secondary Objective: To explore changes in body weight, BMI, and other echocardiographic and iron profile parameters over 12 months.

4. Endpoints

Primary Endpoints

Renal Function: Serum creatinine, eGFR, and 24-hour urine protein

Cardiovascular Health: BNP levels and coronary calcification via NCCT

Hematological Parameters: Hemoglobin and erythropoietin levels

Hepcidin Level: Measured before and after intervention

Secondary Endpoints

Body Weight and BMI: Assessed at baseline and follow-up visits.

Echocardiographic Findings: Assessed pre- and post-intervention.

Iron Profile: Serum ferritin and TSAT

5. Sample Size Justification

Calculation: A sample size of 100 patients was targeted, accounting for potential dropouts, to provide sufficient power (80%) at a significance level of 0.05 to detect differences between the two groups.

6. Statistical Methods

General Considerations

Significance Level: A two-sided alpha level of 0.05 will be used for all primary analyses.

Analysis Populations:

Intent-to-Treat (ITT): All randomized patients will be analyzed according to their assigned group.

Per-Protocol (PP): Only patients completing the study without major protocol violations.

Primary Endpoint Analysis

Renal Outcomes: ANOVA for repeated measures for serum creatinine and eGFR if normally distributed, and the Friedman test for non-normally distributed data. Post-hoc tests using Bonferroni correction.

Cardiovascular Outcomes: Mann-Whitney U test for BNP levels and coronary calcification between groups.

Hematological Outcomes: Paired t-test for hemoglobin and erythropoietin levels if data is normally distributed; otherwise, Wilcoxon signed-rank test.

Secondary Endpoint Analysis

Body Weight and BMI: Compared over time using ANOVA for repeated measures.

Echocardiographic Parameters: Analyzed with paired t-tests, adjusted with Bonferroni correction.

Iron Profile: Analyzed pre- and post-intervention using ANOVA or Kruskal-Wallis for non-normally distributed variables.

Categorical Variables

Chi-Square Test: For between-group comparisons of categorical data (e.g., presence of diabetes, hypertension).

7. Handling of Missing Data

Imputation: Last observation carried forward (LOCF) for data missing at random; multiple imputation for extensive missing data.

Sensitivity Analysis: Conducted to evaluate the robustness of primary endpoint findings against different missing data assumptions.

8. Interim Analysis

Timing: An interim analysis is planned at the halfway point (6 months).

Stopping Rules: An O'Brien-Fleming approach will be applied to adjust the significance threshold for interim testing, allowing for an earlier stop for efficacy or safety concerns.

9. Safety Analysis

Adverse Events (AEs): Summarized by type, frequency, and severity. Fisher's exact test will be used to compare AE rates between groups.

Specific Safety Parameters: Monitoring for hypotension, electrolyte imbalances, and kidney function.

10. Data Quality and Management

Data Quality Measures: Includes data verification, regular audits, and query resolution.

Database Lock: Data will be locked and verified prior to the final analysis.

11. Software

Statistical Software: All analyses will be conducted using SPSS (Version 25).

12. Appendices

Table (1): Demographics and associated medical disorders:

	Control group. (n= 41)	**Study group. (n= 38)**	**P value**
Age (years) Mean ± SD	36.6 ± 9.6	38 ± 9.8	0.8
Sex No. (%) - Male - Female	 7 (17.1%) 34 (82.9%)	 4 (10.5%) 34 (89.5%)	0.5
Body weight (Kg) mean ± SD	78.9 ± 14	90 ± 15	0.5
Body mass index (Kg/m^2) mean ± SD	30.6 ± 10.5	33 ± 5.7	0.6
Hypertension No. (%)	37 (90.2%)	38 (100%)	0.1
Diabetes No. (%)	7 (17.1%)	11 (28.9%)	0.2

(Student T test or Mann-Whitney) for continuous data, and chi-square test for categorical data. Continuous data are expressed as mean (SD) or median (minimum – maximum). Categorical data are expressed as number (percentage), Level of significance < 0.05.

Table (2): SLE characteristics:

	Control group. (n= 41)	**Study group. (n= 38)**	**P value**
Disease duration (years) Median (min, max)	6 (1, 20)	7(1,19)	0.3

Lupus nephritis class No. (%) - Class I - Class II - Class III - Class IV - Class V - Class VI	 1 (2.4%) 2 (4.9%) 11 (26.8%) 26 (36.4%) 5 (2.4%) 0 (0%)	 1 (2.6%) 7 (18.4%) 8 (21.1%) 16 (42.1%) 1 (13.2%) 1 (2.6%)	0.1
Activity index Median (min, max)	6 (0, 19)	6 (0, 21)	0.8
Chronicity index Median (min, max)	2 (0, 8)	5 (0, 14)	0.2
Anti- phospholipid No. (%)	6 (14.6%)	3 (7.9%)	0.4
Immunosuppressive medications No. (%) - Steroid + MMF - Steroid + CNI - Steroid + CNI + MMF - Steroid + Azathioprine - Steroid	 27 (65.9%) 5 (12.2 %) 2 (4.9 %) 7 (17.1%) 0 (0%)	 18 (47.4%) 4 (10.5%) 1 (2.6%) 14 (36.8%) 1 (2.6%)	0.2
Cyclophosphamide No. (%)	7 (17.1%)	5 (13.2%)	0.7
Other medications No. (%) - Aspirin - Statins - Allopurinol - ACEI/ARBS - Diuretics	 15 (36.6%) 30 (73.2%) 10 (24.4%) 26 (63.4%) 14 (34.1%)	 18 (34.4%) 24 (63.2%) 14 (36.8%) 27(71.1%) 16 (32.1%)	 0.3 0.4 0.3 0.4 0.3

- MMF: mycophenolate mofetil; CNI: calcineurin inhibitors; ACEI/ARBS: angiotensin converting enzyme inhibitors/angiotensin receptor blockers; (Student T test or Mann-Whitney) for continuous data, and chi-square test for categorical data. Continuous data are expressed as mean (SD) or median (minimum – maximum). Categorical data are expressed as number (percentage).; Level of significance < 0.05.

Table (3): Baseline laboratory investigations:

	Control group. (n= 41)	**Study group. (n= 38)**	**P value**
Consumed C3 & C4 No. (%)	5 (12.2%)	2 (5.3%)	0.4

S. creatinine (mg/dL) Median (min, max)	0.8 (0.4, 2.7)	0.8 (0.4, 2.6)	0.8
24- hour urinary protein (g/24 hours) mean ± SD	0.4 (0.06-3.6)	0.6 (0.07-3)	0.3
eGFR (ml/min/m^2) mean ± SD	114 ± 51	128 ± 59.7	0.6
Cholesterol mg/dL mean ± SD	185 ± 46	172 ± 40.7	0.5
Albumin (g/dL) mean ± SD	3.7 ± 0.4	3.7 ± 0.3	0.4
Random blood sugar (mg/dL) Median (min, max)	89 (66, 568)	92.5 (64, 243)	0.4
Uric acid (mg/dL) mean ± SD	6.2 ± 2.1	6.5 ± 1.7	0.2
Alanine aminotransferase (IU/L) Median (min, max)	17 (2, 84)	17 (7, 82)	0.8
Aspartate aminotransferase (IU/L) Median (min, max)	21(9, 66)	19 (12,72)	0.4
Sodium (mEq/L) mean ± SD	137 ± 3.1	136 ± 3	0.5
Potassium (mEq/L) mean ± SD	3.9 ± 0.4	4 ± 0.4	0.3

eGFR: estimated glomerular filtration rate; (Student T test or Mann-Whitney) for continuous data, and chi-square test for categorical data. Continuous data are expressed as mean (SD) or median (minimum – maximum). Categorical data are expressed as number (percentage). Level of significance < 0.05.

Table (4): Baseline hematological findings:

	Control group. (n= 41)	Study group. (n= 38)	P value
Hemoglobin (g/dL) Mean ± SD	11.9 ± 1.9	11.7 ± 1.7	0.5
MCV (FL) Mean ± SD	82 ± 7	84 ± 6.9	0.9
MCH (Pg) Mean ± SD	25.4 ± 2.9	26.3 ± 2.9	0.9
Ferritin (mg/dL) Median (min, max)	60 (13, 1113)	33.5 (3, 1460)	0.09
TSAT (%) Median (min, max)	23.8 (7, 64)	18 (6, 74)	0.05
Erythropoietin level (IU/L) Mean ± SD	11.6 ± 2.1	11.3 ± 1.4	0.1
Hepcidin level (ug/L) Mean ± SD	198 ± 74	182 ± 76	0.3
Platelet count (*10^3) Mean ± SD	288 ± 71	300 ± 79	0.7

MCV: Mean corpuscle volume; MCH: Mean corpuscular hemoglobin; TSAT: Transferrin saturation test; (Student T test or Mann-Whitney) for continuous data, and chi-square test for categorical data. Continuous data are expressed as mean (SD) or median (minimum – maximum). Categorical data are expressed as number (percentage).; Level of significance < 0.05.

Table (5): Baseline Cardiac evaluation:

	Control group.	Study group.	P value

	(n= 41)	(n= 38)	
Coronary calcification No. (%)	3 (7.3%)	11 (28.9%)	***0.012***
Coronary calcification severity No. (%) - No - Minimal - Mild - moderate	 38 (92.7%) 1 (2.4%) 1 (2.4% 1 (2.4%)	 27 (71.1%) 3 (7.9%) 7 (18.4%) 1 (2.6%)	***0.04***
BNP (ng/L) Median (min, max)	52 (40, 557)	52 (34, 90)	0.8
Echocardiographic finding			
EF % Mean ± SD	65.4 ± 9.3	64.6 ± 5.4	0.6
LAD (ml) Mean ± SD	24.2 ± 7.6	24.9 ± 7.6	0.6
Aortic diameter (ml) Mean ± SD	24.7±7.4	24.8±7.1	0.9
ESV (ml/m) Median (min, max)	38±13.6	41±13.9	0.4
EDV (ml/m) Mean ± SD	98±35.7	111.5±31.6	0.08

BNP: Brain natriuretic peptide; EF: Ejection fraction; LAD: Left atrial dimension; ESV: End- systolic volume; EDV: End diastolic volume; (Student T test or Mann-Whitney) for continuous data, and chi-square test for categorical data. Continuous data are expressed as mean (SD) or median (minimum – maximum). Categorical data are expressed as number (percentage).; Level of significance < 0.05.

Table (6): Comparison between study and control groups as regard effect of intervention on disease activity and renal affection at different time points

	Grouping	Baseline	3 months	6 months	9 months	12 months	P value*
Consumed C3 & C4 No. (%)	**Control**	5 (12.2%)	5 (12.2%)	4 (9.8%)	6 (14.6%)	10 (24.4%)	0.1
	Study	2 (5.3%)	5 (13.2%)	2 (5.3%)	6 (15.8%)	6 (15.8%)	0.1
	P value**	0.4	0.9	0.3	1	0.4	
S. creatinine (mg/dL) Median (min, max)	**Control**	0.8 (0.4, 2.7)	0.9 (0.4, 3.1)	0.9 (0.3-3.1)	0.9 (0.6, 4)	0.9 (0.6, 5)	0.1
	Study	0.8 (0.4, 2.6)	0.9 (0.6, 2.6)	0.9 (0.5, 3.1)	1 (0.5, 4.2) a	0.9 (0.5, 5)	***0.01***
	P value**	0.8	0.8	1	0.5	0.8	
eGFR (ml/min/m^2) Mean ± SD	**Control**	114±51	104±45 a	107±53.8	99±47 a	100.3±44.5 a	***0.003***
	Study	128±59.7	115±47 A	118±50 A	109±44.5 a, c	115.7±48 a	***0.001***
	P value**	0.6	0.9	0.8	0.2	0.9	
24- hour urinary protein (g/24 hours) Median (min, max)	**Control**	0.4(0.06-3.6)	0.6 (0.03-5)	0.6 (0.03-7)	0.6 (0.02, 5)	0.5 (0.02, 8)	0.06
	Study	0.6 (0.07-3)	0.7 (0.01-4)	0.8 (0.02, 4.8)	0.6 (0.05, 4.7)	0.5 (0.02, 4)	0.07
	P value**	0.3	0.9	0.8	0.6	0.6	
Albumin (g/dL) Mean ± SD.	**Control**	3.7±0.4	3.7±0.4	3.6±0.4	3.8±0.4 c	3.9±0.3 a, b, c	***0.001***
	Study	3.7±0.3	3.7±0.5	3.7±0.3	3.8±0.3 c	3.9±0.8 a, c	***0.04***
	P value**	0.4	0.9	0.1	0.7	0.8	

(*) Within group analysis (repeated measure ANOVA).

(**) Between group analysis (Student T test or Mann-Whitney) for continuous data, and chi-square test for categorical data. Post-hoc analysis; (a) significance against baseline <0.05; (b) significance against 3 months level <0.05, (c) significance against 6 months level <0.05, (d)

significance against 9 months level <0.05. Continuous data are expressed as mean (SD) or median (minimum – maximum). Categorical data are expressed as number (percentage).

Table (7): effect of intervention on hematological findings between both groups at different time points:

	Grouping	Baseline	3 months	6 months	9 months	12 months	P value*
Haemoglobin (g/dL) Mean ± SD	**Control**	11.9±1.9	12.2±1.9	11.8±2.5	12±1.9	12.2±1.9	0.08
	Study	11.8±1.8	12.3±1.7	12±2.5	11.9±2.2	12±2	0.06
	P value**	0.5	0.7	0.7	0.3	0.6	
MCV (FL) Mean ± SD	**Control**	82±7	83±7	84±7	84.6±7.9	81.5±13	0.1
	Study	84±6.9	80±14	83±10	83.2±10.8	84±7	0.3
	P value**	0.9	0.1	0.5	0.5	0.4	
MCH (Pg) Mean ± SD	**Control**	25.4±2.9	27.3±9.8	28.5±9	26.9±3.2	26.9±3.1	0.08
	Study	26.3±2.9	27.3±9.5	27±3	26.6±3.5	27.1±3.4	0.8
	P value**	0.9	0.9	0.4	0.4	0.5	

(*) Within group analysis (repeated measure ANOVA).
(**) Between group analysis (Student T test or Mann-Whitney) for continuous data, and chi-square test for categorical data. Continuous data are expressed as mean (SD) or median (minimum – maximum). Categorical data are expressed as number (percentage).
MCV: Mean corpuscle volume; MCH: Mean corpuscular haemoglobin.

Table (8): other hematological findings differences between both groups:

	Grouping	Baseline	12 months	P value*
Ferritin (mg/dL) Median (min, max)	**Control**	60 (13, 1113)	75 (6, 2127)	0.5
	Study	33.5 (3, 1460)	64 (3, 1311)	0.8
	P value**	0.09	0.4	
TSAT (%) Median (min, max)	**Control**	23.8 (7, 64)	28 (5, 62)	0.1
	Study	18 (6, 74)	20 (6, 66)	0.9
	P value**	0.05	0.1	
Erythropoietin level IU/L Mean ± SD	**Control**	11.6±2.1	12.8 ± 3.5	0.08
	Study	11.3±1.4	12.4 ± 3.5	0.1
	P value**	0.1	0.6	
Hepcidin level ug/L Mean ± SD	**Control**	198 ± 74	128 ±63	***0.001***
	Study	182±76	116±15	***0.001***
	P value**	0.3	0.2	
Platelet count (×10^3) Mean ± SD	**Control**	288 ± 71	283 ± 74	0.6
	Study	300 ± 79	276 ± 65	***0.01***
	P value**	0.7	0.5	

(*) Within group analysis (paired t test).
(**) Between group analysis (Student T test or Mann-Whitney) for continuous data, and chi-square test for categorical data.
Continuous data are expressed as mean (SD) or median (minimum – maximum). Categorical data are expressed as number (percentage).
TSAT: Transferrin saturation test

Table (9): Cardiac evaluation differences between both groups after 12 months:

	Control group	Study group	P value
Coronary calcification No. (%)	1 (2.4%)	11 (28.9%)	***0.001***
Coronary calcification severity No. (%) - No - Minimal - Mild - moderate	40 (97.6%) 0 0 1 (2.4%)	27 (71.1%) 9 (23.7%) 2 (5.3%) 0	***0.002***
BNP ng/L Mean ± Sd	66 ± 22.1	65.8±21	0.9
Echocardiographic finding			
EF % Mean ± SD	65.5±5.8	64.9±5.2	0.8
LAD ml Mean ± SD	26.7±7.6	28.2±8.6	0.4
Aortic diameter ml Mean ± SD	26.6±6.5	25.5±6.2	0.4
ESV ml/min Mean ± SD	39.5±18	36.3±9.3	0.3
EDV ml/min Mean ± SD	108±29.6	109±19.3	0.9

BNP: Brain natriuretic peptide; EF: Ejection fraction; LAD: Left atrial dimension; ESV: End- systolic volume; EDV: End diastolic volume; Chi square test; Student t- test; Man, Whitney test; Level of significance < 0.05.

Table (10): Comparison between both groups as regard post intervention side effects

	Control group. (n= 41)	**Study group. (n= 38)**	**P value**
AKI episodes No. (%) - No - once - twice	38 (92.7%) 1 (2.4%) 2 (4.9%)	31 (81.6%) 5 (13.2%) 2 (5.3%)	0.17
UTI No. (%) - No - once - more than once	35 (85.4%) 4 (9.8%) 2 (4.9%)	31 (81.6%) 5 (13.2%) 2 (5.3%)	0.8
Gynecological infection No. (%)	1 (2.4%)	2 (5.3%)	0.6
Viral infection No. (%)	1(2.4%)	1 (2.6%)	1
MMF intolerance No. (%)	1 (2.5%)	2 (5.3%)	0.6
Renal biopsy No. (%)	2 (4.9%)	1 (2.6%)	0.6
Increase steroid dose No. (%)	7 (17.1%)	4 (10.5%)	1

UTI: urinary tract infection episodes; AKI: acute kidney injury; chi-square test for categorical data. Categorical data are expressed as number (percentage).; Level of significance < 0.05.

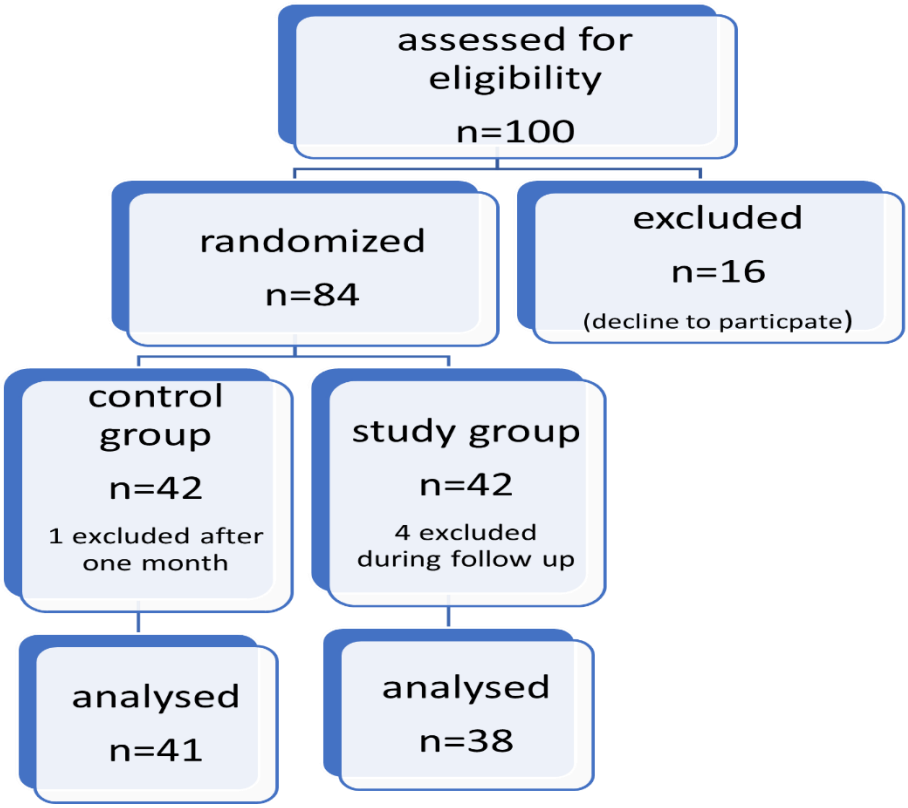


figure1: **flow chart of participating populations**

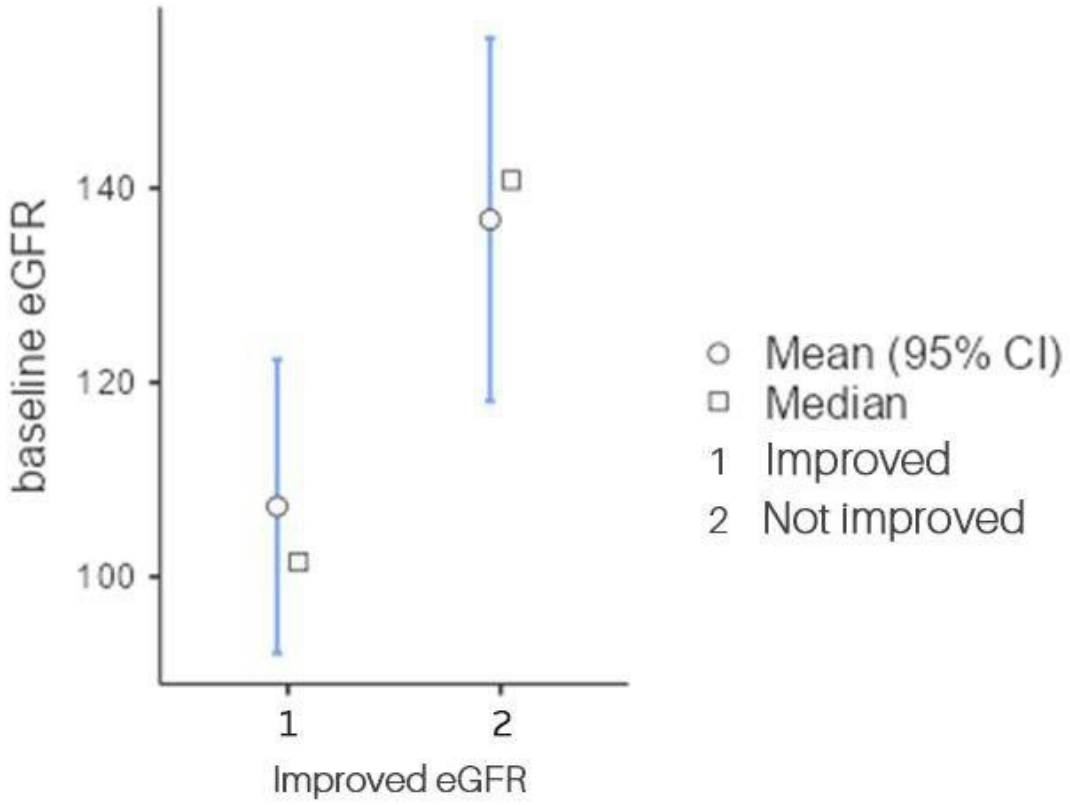


Figure (2) shows difference between individual which had improved eGFR or not as regard to their basal eGFR in total cohort, which found that improving eGFR had been occurred in patients with lower eGFR (107±50 vs 137±58 ml/min/m^2

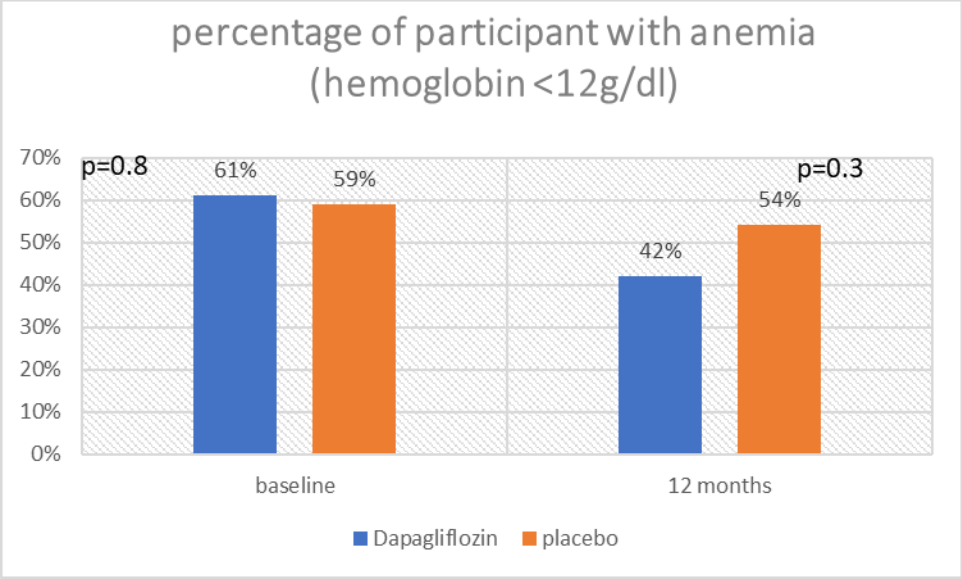
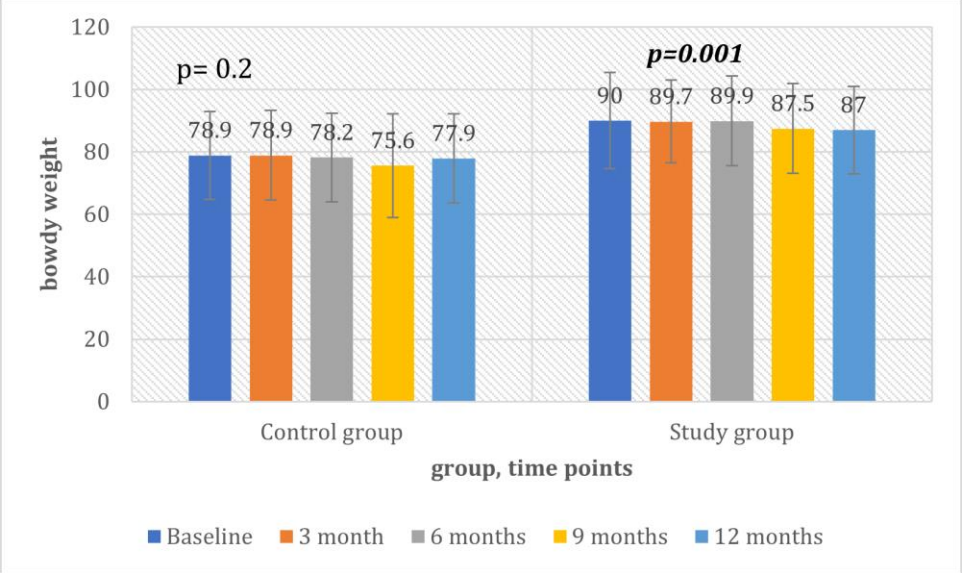


Figure (3) show no significant difference between the drug and placebo groups (p=0.857). as regard incidence of anemia before intervention, the drug group has 23 anemic participants (60.5%) versus 24 participants (58.5%) in the placebo group, while post intervention, In the anemia category, the drug group has 16 participants (42.1%), while the placebo group has 22 participants (53.7%) with non-significant differences (p = 0.3)

Figure (4) differences in body weight between both groups at different time points:



Glossary of Terms and Abbreviations

AA	Amino Acids
ABIN	A20 Binding Inhibitor Of NF-Kb
ACE	Angiotensin-Converting Enzyme Inhibitors
ACR	American College of Rheumatology
AKI	Acute Kidney Injury
ALCAM	Activated Leucocyte Adhesion Molecule
ALP	Alkaline Phosphatase
AMP	Adenosine Monophosphate
AMPK	Amp-Activated Protein Kinase
ANA	Antinuclear Antibodies
ANG II	Angiotensin 2
ANOVA	Analysis Of Variance
ANTI-DSDNA	Anti Double Stranded Deoxyribonucleic Acid Antibodies
ANTI-SM	Anti-Smith Antibodies
APLS	Antiphospholipid Syndrome
ARBS	Angiotensin 2 Receptor Blockers
ATN	Acute Tubular Necrosis
ATP	Adenosine Triphosphate
BAFF	B-Cell-Activating Factor
BLISS	B Lymphocyte Stimulator Inhibitor Belimumab Plus Standard Therapy
BMI	Body Mass Index
BNP	Brain Natriuretic Peptide
BP	Blood Pressure
CAC	Coronary Artery Calcification
CAD	Coronary Artery Disease

CAMK	Ca2+/Calmodulin-Dependent Protein Kinase
CASR	Serine/Threonine Kinase Camk4
CCS	Coronary Calcium Score
CD163	Macrophage-Specific Protein
CD4 T-CELLS	Helper T-Cells
CD8 T-CELLS	Cytotoxic T-Cells
CI	Confidence Interval
CKD	Chronic Kidney Disease
CKD-MBD	Chronic Kidney Disease-Mineral Bone Disorders
CLD	Chronic Liver Disease
CMV	Cytomegalovirus
CNI	Calcineurin Inhibitors
CT	Computed Tomography
CVD	Cardiovascular Disease
CYC	Cyclophosphamide
DAPA-HF	The Dapagliflozin and Prevention of Adverse Outcomes in Heart Failure
DCGF	Death-Censored Graft Failure
DECLARE-TIMI 58	Dapagliflozin Effect on Cardiovascular Events–Thrombolysis in Myocardial Infarction 58
DELIGHT	Delay Of Impaired Glucose Tolerance by A Healthy Lifestyle Trial
DM	Diabetes Mellitus
DNA	Deoxyribonucleic Acid
EBV	Epstein Bar Virus
EDV	End Diastolic Volume
EF	Ejection Fraction
EGFR	Estimated Glomerular Filtration Rate
EMPA-REG	Empagliflozin-Removing Excess Glucose

EPO	Erythropoietin
EPOR	Erythropoietin Receptors
ESRD	End-Stage Renal Disease
ESV	End- Systolic Volume
EULAR	The European League Against Rheumatism
FDA	Food And Drug Administration
FEUA	Fractional Excretion of Uric Acid
FGF	Fibroblast Growth Factor
FN1	Fibronectin 1
GCS	Glucocorticoids
H2 O2	Hydrogen Peroxide
HBA1C	Glycated Hemoglobin
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HD	Hemodialysis
HIF	Hypoxia-Inducible Factor
HIV	Human Immunodeficiency Virus
HLA	Human Leucocytic Antigen
HPT	Hyperparathyroidism
HR	Hazard Ratio
HR-PQCT	High-Resolution Peripheral Quantitative Computer Tomography
HUS	Hemolytic Uremic Syndrome
HZ	Herpes Zoster
IFTA	Interstitial Fibrosis and Tubular Atrophy
IGG	Immunoglobulin G
IL-6	Interleukin-6
IPTH	Intact Parathyroid Hormone
ITP	Immune Thrombocytopenic Purpura

KDIGO	Kidney Disease Improving Global Outcomes
LAD	Left Atrial Dimension
LDL	Low-Density Lipoprotein
LUMINA	Lupus In Minorities; Nature Vs. Nurture
LV	Left Ventricle
MCH	Mean Corpuscular Hemoglobin
MCP1	Monocyte Chemoattractant Protein-1
MCV	Mean Corpuscular Volume
MDCT	Multidetector CT
MMF	Mycophenolate Mofetil
MPAA	Mycophenolic Acid Analogue
MRI	Magnetic Resonance Imaging
NGAL	Neutrophil Gelatinase-Associated Lipocalin
NH3	Na+/H+ Exchanger 3
NHS	National Health Service
NLR	Nucleotide-Binding Oligomerization Domain-Like Receptor
NSAIDS	Non-Steroidal Anti-Inflammatory Drugs
PD	Peritoneal Dialysis
PET	Positron Emission Tomography
PGC-1A	Peroxisome Proliferators-Activated Receptor Gamma Coactivator-1α
QCT	Quantitative Computer Tomography
RAAS	Renin-Angiotensin-Aldosterone
RBG	Random Blood Glucose
RCTS	Randomized Controlled Trials
RNA	Ribonucleoside Antibodies
ROS	Reactive Oxygen Species

RPS/ISN	The Renal Pathology Society/International Society of Nephrology
RRT	Renal Replacement Therapy
SBP	Systolic Blood Pressure
SELENA-SLEDAI	Safety Of Estrogens in Lupus Erythematosus National Assessment–SLE Disease Activity Index
SGLT2	Sodium-Glucose Cotransporter 2
SGLT2 inhibitors	Sodium-Glucose Cotransporter 2 Inhibitors
SIRT1	Sirtuin Type 1.
SLE	Systemic Lupus Erythematosus
SLEDAI	Systemic Lupus Erythematosus Disease Activity Index
SLICC	The Systemic Lupus International Collaborating Clinics
SNS	Sympathetic Nervous System
T2DM	Type 2 Diabetes Mellitus
TLRS	Toll-Like Receptors
TNF	Tumor Necrosis Factor
TSAT	Transferrin Saturation
UTI	Urinary Tract Infection
VCAM-1	Vascular Cell Adhesion Molecule-1