

Clinical Trial Protocol

Iranian Registry of Clinical Trials

30 May 2026

Effect of Insulin Injection Site and Time Interval Administration for the Postprandial Glucose Control in Patient with Diabetes Type 2

Protocol summary

Summary

The study was an experimental with Randomized Complete Block Design (RCBD). The population were patients with diabetes mellitus type 2 in dr. Moewardi Hospital Solo, Central Java consisted of 60 respondents taken from simple random sampling and the respondents were divided into 4 blocks. Injection used was Rapid-acting insulin with the dosage prescribed by the doctor. Injection was done in four (4) locations; abdomen, deltoid, thigh and gluteus. The administration were 0 minutes (along with meals), 10 minutes before meal, 20 minutes before meal and 30 minutes before meal. Postprandial glucose levels were measured using a Glucometer. Data were then analyzed by SPSS 18 with Two-Way ANOVA and Tukey HSD.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017062134690N1**

Registration date: **2017-07-12, 1396/04/21**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2017-07-12, 1396/04/21

Registrant information

Name

Agus Santosa

Name of organization / entity

Universitas Muhammadiyah Purwokerto

Country

Indonesia

Phone

006285328111986

Email address

agussantosa@ump.ac.id

Recruitment status

Recruitment complete

Funding source

Self

Expected recruitment start date

2015-05-01, 1394/02/11

Expected recruitment end date

2016-01-01, 1394/10/11

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of Insulin Injection Site and Time Interval Administration for the Postprandial Glucose Control in Patient with Diabetes Type 2

Public title

This study aimed to determine the effects of insulin injection site and interval timing to the control of postprandial glucose in diabetes mellitus patients type 2

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Patient diabetes melitus type2; Age min 40 years old; used insulin therapy, Exclusion criteria: Patient diabetes melitus type2 with complication diabetic (neuropati diabetic, retinopati diabetic, nefropati diabetic); Hiperosmolalitas ketoasidosis; Used Oral Antihyperglycemic Drugs

Age

From **40 years** old to **80 years** old

Gender

Both

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: 60

Randomization (investigator's opinion)

Randomized

Randomization description**Blinding (investigator's opinion)**

Single blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features

Randomized Complete Block Design (RCBD)

Secondary Ids

empty

Ethics committees**1****Ethics committee****Name of ethics committee**Ethics Committee Universitas Muhammadiyah
Yogyakarta**Street address**Jl. Lingkar Selatan, Kasihan, Tamantirto, Bantul,
Tamantirto, Kasihan, Yogya, Daerah Istimewa
Yogyakarta, Indonesia**City**

Bantul

Postal code

55183

Approval date

2015-05-15, 1394/02/25

Ethics committee reference number

441/EP-FKIK UMY/2015

Health conditions studied**1****Description of health condition studied**

Patient with diabetes type 2

ICD-10 code

E10-E14

ICD-10 code description

Non-insulin-dependent diabetes mellitus

Primary outcomes**1****Description**

postprandial glucose

Timepoint

2 hour postprandial

Method of measurement

Glucometer

Secondary outcomes**1****Description**

Time Interval Administration

Timepoint

0-30 minutes

Method of measurement

timer

Intervention groups**1****Description**Intervention I/Block I: Insulin injections in the abdomen,
deltoid, thigh and gluteus at the time of administration
were 0 minutes (along with meals). Types of insulin
administered was Rapid-acting insulin at a dose
prescribed by the doctor**Category**

Treatment - Other

2**Description**Intervention II/Block II: Insulin injections in the abdomen,
deltoid, thigh and gluteus at the time of administration
were 10 minutes before meal. Types of insulin
administered was Rapid-acting insulin at a dose
prescribed by the doctor**Category**

Treatment - Other

3**Description**Intervention III/Block III: Insulin injections in the
abdomen, deltoid, thigh and gluteus at the time of
administration were 20 minutes before meal. Types of
insulin administered was Rapid-acting insulin at a dose
prescribed by the doctor**Category**

Treatment - Other

4**Description**Intervention IV/Block IV: Insulin injections in the
abdomen, deltoid, thigh and gluteus at the time of
administration were 30 minutes before meal. Types of
insulin administered was Rapid-acting insulin at a dose
prescribed by the doctor**Category**

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Universitas Muhammadiyah Purwokerto

Full name of responsible person

Agus Santosa

Street address

Jl. Raya Dukuwaluh, Dukuwaluh, Kembaran,
Kabupaten Banyumas, Jawa Tengah 53182, Indonesia

City

Banyumas

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Agus Santosa

Full name of responsible person

Agus

Street address

Desa Linggadari RT6/RW6 Kecamatan Kembaran,
Kabupaten Banyumas, Provinsi Jawa Tengah

City

Banyumas

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Agus Santosa

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin**Type of organization providing the funding**

empty

Person responsible for general inquiries

Contact

Name of organization / entity

Universitas Muhammadiyah Purwokerto

Full name of responsible person

Ikhsan Mujahid

Position

Dean

Other areas of specialty/work**Street address**

Jl. Letjen Soepardjo Roestam Km7 Purwokerto

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Banyumas

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+620281636751

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info@ump.ac.id

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Universitas Muhammadiyah Purwokerto

Full name of responsible person

Suwarno

Position

Head Of Reseach Centre Universitas Muhammadiyah
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Other areas of specialty/work**Street address**

Jl. Raya Dukuwaluh, Dukuwaluh, Kembaran,
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Person responsible for updating data

Contact

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Full name of responsible person

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Web page address

Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty