#### A Dissertation on

## "A STUDY ON INCIDENCE AND RISK FACTORS OF DIABETIC RETINOPATHY IN PATIENT WITH DIABETIC MACULOPATHY"

Submitted to the

#### THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY

*In partial fulfilment of the Regulations* 

for the Award of the Degree of

M.S. (BRANCH - III) - OPHTHALMOLOGY



#### GOVT. STANLEY MEDICAL COLLEGE

THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY

**CHENNAI - 600 001** 

**MAY 2020** 

#### **CERTIFICATE**

This is to certify that the study entitled "A STUDY ON INCIDENCE AND RISK FACTORS OF DIABETIC RETINOPATHY IN PATIENT WITH DIABETIC MACULOPATHY" is the result of original work carried out by DR.S.M.MOHAMMED MUHAZIR, under my supervision and guidance at GOVT. STANLEY MEDICAL COLLEGE, CHENNAI. The thesis is submitted by the candidate in partial fulfilment of the requirements for the award of M.S Degree in Ophthalmology, a course from 2017 to 2020 at Govt. Stanley Medical College, Chennai.

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#### **CERTIFICATE FROM GUIDE**

This is to certify that the dissertation entitled "A STUDY ON INCIDENCE AND RISK FACTORS OF DIABETIC RETINOPATHY IN PATIENT WITH DIABETIC MACULOPATHY" is a bonafide record of research work done by DR.S.M.MOHAMMED MUHAZIR, Post Graduate Resident in Department of ophthalmology, Government Stanley Medical College, Chennai.

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**DECLARATION** 

I hereby declare that this dissertation entitled "A STUDY ON

INCIDENCE AND RISK FACTORS OF DIABETIC RETINOPATHY

IN PATIENT WITH DIABETIC MACULOPATHY" is a bonafide and

genuine research work carried out by me under the guidance of

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# GOVERNMENT STANLEY MEDICAL COLLEGE & HOSPITAL, CHENNAI\_-01 INSTITUTIONAL ETHICS COMMITTEE

TITLE OF THE WORK : "INCIDENCE AND RISK FACTORS OF DIABETIC

RETINOPATHY IN PATIENT WITH DIABETIC MACULOPATHY-A CROSS SECTIONAL STUDY"

PRINCIPAL INVESTIGATOR : DR.S.M. MOHAMMED MUHAZIR, DESIGNATION : PG IN MS OPHTHALMOLOGY,

DEPARTMENT : DEPARTMENT OF OPHTHALMOLOGY,

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The request for an approval from the Institutional Ethical Committee (IEC) was considered on the IEC meeting held on 17.02.2018 at the Council Hall, Stanley Medical College, Chennai-1 at 10am.

The members of the Committee, the secretary and the Chairman are pleased to approve the proposed work mentioned above, submitted by the principal investigator.

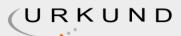
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#### **Urkund Analysis Result**

Analysed Document: Incidence and Risk Factors of Diabetic Retinopathy in patient with

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Sources included in the report:

ROL V17 with results and discussion.docx (D41551684)
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https://cjeo-journal.org/research-progress-of-diabetic-retinopathy-with-dyslipidemia/

Instances where selected sources appear:

13

#### **CERTIFICATE-II**

This is to certify that this dissertation work titled "Incidence and Risk Factors of Diabetic Retinopathy in patient with Diabetic Maculopathy" of the candidate **S.M.MOHAMMED MUHAZIR** with registration number **221713052** for the award of **M.S DEGREE** in the branch of **OPHTHALMOLOGY**. I personally verified the urkund.com website for the purpose of plagiarism Check. I found that the uploaded thesis file contains from introduction to conclusion pages and the result shows 4% of plagiarism in the dissertation.

Guide and supervisor sign with seal

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#### **ABBREVIATIONS:**

1. DR - DIABRTIC RETINOPATHY

2. DM - DIABETIC MACULOPATHY

3. DMO - DIABETIC MACULAR EDEMA

4. CMO - CYSTOID MACULAR EDEMA

5. CSME - CLICALLY SIGNIFICANT MACULAR EDEMA

6. CKD - CHRONIC KIDNEY DISEASE

7. NPDR - NON PROLIFERATIVE DIABETIC RETINOPATHY

8. LR PDR - LOW RISK DIABRTIC RETINOPATHY

9. HR PDR - HIGH RISK DIABRTIC RETINOPATHY

10. ADED - ADVANCED DIABETIC EYE DISEASE

11. T1DM - TYPE 1 DIABETES MELLITUS

12. T2DM - TYPE 2 DIABETES MELLITUS

13. LADA - LATENT AUTOIMMUNE DIABETES OF ADULTS

14.TCF - TRANSCRIPTION FACTOR

15. GAD - GLUTAMINE ACID DECARBOXYLASE

16. IAPP - ISLET AMYLOID POLYPEPTIDE

17. OHA - ORAL HYPOGLYCEMIC STATUS

18. OGTT - ORAL GLUCOSE TOLERANCE TEST

19. VEGF - VASCULAR ENDOTHELIAL GROWTH FACTOR

20. IGF - INSULIN-LIKE GROWTH FACTOR

21. RAAS - RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM

22. SDH - SORBITOL DEHYDROGENASE

23. ACE - ANGIOTENSIN CONVERTING ENZYME

24. ROS - REACIVE OXYGEN SPECIES

25. RAGE - RECEPTOR FOR ADVANCED GLYCATION

**ENDPRODUCTS** 

26. RNS - REACIVE NITROGEN SPECIES

27. BRB - BLOOD RETINAL BARIER

28. CA - CARBONIC ANHYDRASE

29. ETDRS - EARLY TREATMENT DIABETIC RETINOPATHY

**STUDY** 

# PART-I

# PART-II