Biographical Sketch

NAME
Srinivas Marmamula (Marmamula S)

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POSITION TITLE
Network Associate Director – Public Eye Health Research & Training, L V Prasad Eye Institute, Hyderabad, India
Conjoint Senior Lecturer, Faculty of Science, University of New South Wales, Sydney Australia
Scientist (Grade V),
Brien Holden Institute of Optometry and Vision Science, L V Prasad Eye Institute, Hyderabad, India
L V Prasad Eye Institute, Hyderabad, India

EDUCATION/TRAINING

Institution and location	Degree	Year(s)	Field of study
L V Prasad Eye Institute, Hyderabad, India	Diploma in Ophthalmic Techniques	1993 – 1996	Optometry
L V Prasad Eye Institute, Hyderabad, India	Fellowship in Optometry and Vision	1996 - 1997	Optometry
Osmania University, Hyderabad, India	B.A.	1997 – 2000	Sociology, History, Public Administration
Osmania University, Hyderabad, India	M.A.	2000 – 2002	Sociology
London School of Hygiene and Tropical Medicine, University of London, UK	M.Sc	2002 – 2003	Community Eye Health
University of New South Wales, Sydney, Australia	PhD	2006 – 2011	Optometry / Public Health
Wilmer Eye Institute, Johns Hopkins University, USA	Post-Doctoral Research Fellowship with Dr. David Friedman	2012 – 2013	Public Eye Health
Callahan Eye Hospital, University of Alabama at Birmingham, USA	Research Training with Dr. Cynthia Owsley	2016	Research in Eye Health in the Elderly Population
Massachusetts Eye and Ear, Harvard Medical School, Boston, USA	Research Training with Dr. David Friedman	2019	Research Methods in Eye Health
Global Health and Population, Harvard T H Chan School of Public Health, Harvard University, Boston, USA	Research Training with Dr. David Bloom	2023	Research methods (Aging and demographic studies)

Personal Statement

I am a Public Eye Health specialist at Gullapalli Pratibha Rao International Centre for Advancement of Rural Eye Care, L V Prasad Eye Institute, India. I received my optometry education at L V Prasad Eye Institute and then completed a master's degree in Community Eye Health from the London School of Hygiene and Tropical Medicine, University of London followed by PhD from the School of Optometry & Vision Science, UNSW, Sydney, Australia. I have also received public health research training at Johns Hopkins Bloomberg School of Public Health and had post-doctoral training with Dr. David Friedman at Wilmer Eye Institute, Johns Hopkins School of Medicine, Johns Hopkins University, Baltimore, MD, USA. My dual specialization in eye health and training in public health has enabled me to conduct independent epidemiological research with a special focus on visual impairment. As a Wellcome Trust / DBT India Alliance research fellow, I worked on visual impairment in the elderly in residential care in India. I continue to work on research related to eye health in the elderly and other vulnerable populations.

Positions and Employment

1996 – 2000	Chief Optometrist / Co-Investigator, Andhra Pradesh Eye Disease Study, L V Prasad Eye Institute, India
2000	Chief Optometrist, Refractive Errors Study in Children, L V Prasad Eye Institute, India
2000 – 2002	Chief Optometrist, Children's Eye Care Centre, L V Prasad Eye Institute, India
2003 – 2013	Associate Optometrist / Public Health Specialist, International Centre for Advancement of Rural Eyecare, L V Prasad Eye Institute, India
2003 – 2018	Senior Faculty, Brien Holden Institute of Optometry and Vision Science, L V Prasad Eye Institute, India
2018 – till date	Visiting Fellow, School of Optometry & Vision Science, University of New South Wales, Sydney Australia
2013 – 2014	Research Optometrist / Public Health Specialist, International Centre for Advancement of Rural Eyecare, L V Prasad Eye Institute, India
2015 – 2017	Section Leader – Primary Eye Care, Community Eye Health Education and Research, L V Prasad Eye Institute, India
2018 – 2023	Associate Director – Public Eye Health Research and Training, L V Prasad Eye Institute, India
2023 – till date	Network Associate Director for Research – Public Health, L V Prasad Eye Institute, India

Other experience and professional memberships

2018 – 2019: Member, Telangana Kanti Velugu Project, a Government Telangana State initiative

2018 : Technical Expert, WHO TAP (Training in Assistive Products) project

2016 – 2019**:** Member, The Alumni Association of L V Prasad Eye Institute Optometrists

2020 : Clinical team lead for Eye Screening program for Refugee camps in Cox's Bazaar, Bangladesh

Honours

2022 - 2027 Wellcome Trust / DBT India Alliance Intermediate Career Fellowship for a Longitudinal Eye health Aging and Disability Study (LEADS) in the elderly population.

2020 Optometry Council of India – Essilor Award for the Best Contribution towards Public Health - 2019

2017 Received "Alumnus of the Year" award by "The Alumni Association of L V Prasad Eye Institute Optometrists" in Jan 2017

2015 Asia ARVO travel grant to attend the conference in Japan in February 2015

2015 - 2020 Wellcome Trust / DBT India Alliance Early Career Fellowship for research on visual impairment in the Elderly population in residential care

2013 Best Poster Award at Asia ARVO (Association for Research in Vision and Ophthalmology) conference held in Delhi, in October 2013. Also received a travel grant from ARVO to attend this conference.

2012 – 2013 L V Prasad Eye Institute, Merit scholarship for post-doctoral studies at Johns Hopkins University

2006 – 2011 Vision CRC Scholarship for doctoral studies at University of New South Wales, Sydney, Australia

2002 – 2003 Scholarship from the Department for International Development (DFID, UK) for M.Sc (Community Eye Health) from London School of Hygiene and Tropical Medicine, University of London, UK.

2002 – 2003 Boulter Fellowship from British Council for Prevention of Blindness for M.Sc in the UK

Ranked among the Top 200 Global Optometrists in 2023, first rank in India. https://optomrankings.com/

Contributions to science

1) I was a part of one of the largest epidemiolocal studies, the Andhra Pradesh Eye Disease Study (APEDS) which was carried out in India to understand the prevalence, causes and risk factors of visual impairment in the south Indian state of Andhra Pradesh, India. I was a part of the clinical team and part of the publications from this study. APEDS 2 was carried out to understand the mortality and morbidity among the APEDS 1 cohort followed by APEDS 3 which was carried out to understand the incidence and progression of visual impairment, myopia and other eye conditions.
   a. Khanna RC, **Marmamula S**, Pendri P, Mettla AL, Giridhar P, Banerjee S, Shekhar K, Chakrabarti S, Murthy GVS, Gilbert C, Rao GN; Andhra Pradesh Eye Disease Study Group. Incidence, Incident Causes, and Risk Factors of Visual Impairment and Blindness in a Rural Population in India: 15-Year Follow-up of the Andhra Pradesh Eye Disease Study. Am J Ophthalmol. 2020 Sep 29;223:322-332.
   b. Khanna RC, Murthy GV, **Marmamula S**, Mettla AL, Giridhar P, Banerjee S, Shekhar K, Chakrabarti S, Gilbert C, Rao GN; Andhra Pradesh Eye Disease Study Group. Longitudinal Andhra Pradesh Eye

Disease Study (APEDS3): rationale, study design and research methodology. Clin Experiment Ophthalmol. 2015 Aug 18. doi:10.1111/ceo.12633.

c. **Marmamula S**, Khanna RC, Rao GN. Population-based assessment of prevalence and risk factors for pterygium in the South Indian state of Andhra Pradesh: the Andhra Pradesh Eye Disease Study. Invest Ophthalmol Vis Sci 2013;54:5359-5366.

d. Dandona R, Dandona L, **Srinivas M**, Giridhar P, Nutheti R, Rao GN. Planning low vision services in India: a population-based perspective. Ophthalmology. 2002 Oct;109(10):1871-8.

e. Dandona R, Dandona L, **Srinivas M**, Giridhar P, Prasad MN, Vilas K, McCarty CA, Rao GN. Moderate visual impairment in India: the Andhra Pradesh Eye Disease Study. Br J Ophthalmol. 2002 Apr;86(4):373-7.

f. Dandona R, Dandona L, **Srinivas M**, Giridhar P, McCarty CA, Rao GN. Population-based assessment of refractive error in India: the Andhra Pradesh eye disease study. Clin Experiment Ophthalmol. 2002 Apr;30(2):84-93.

g. Dandona L, Dandona R, **Srinivas M**, Giridhar P, Vilas K, Prasad MN, John RK,McCarty CA, Rao GN. Blindness in the Indian state of Andhra Pradesh. Invest Ophthalmol Vis Sci. 2001 Apr;42(5):908-16.

h. Dandona L, Dandona R, Naduvilath TJ, McCarty CA, Nanda A, **Srinivas M**, Mandal P, Rao GN. Is current eye-care-policy focus almost exclusively on cataract adequate to deal with blindness in India? Lancet. 1998 May 2;351(9112):1312-6.

2) As a part of my doctoral studies, I developed, and field tested a rapid assessment methodology for refractive errors (Rapid Assessment of Refractive Errors - RARE). There were no rapid assessment methods for refractive errors prior to this study. This methodology is currently being used by several other researchers around the world.

a. **Marmamula S,** Keeffe JE, Rao GN. Uncorrected refractive errors, presbyopia and spectacle coverage: results from a rapid assessment of refractive error survey. Ophthalmic Epidemiol 2009;16:269-274.

b. **Marmamula S**, Keeffe JE, Raman U, Rao GN. Population-based cross-sectional study of barriers to utilization of refraction services in South India: Rapid Assessment of Refractive Errors (RARE) Study. BMJ Open. 2011 Jul 15;1(1):e000172.

c. **Marmamula S**, Keeffe JE, Narsaiah S, Khanna RC, Rao GN, MD. Changing Trends in the Prevalence of Visual Impairment, Uncorrected Refractive Errors and Use of Spectacles in Mahbubnagar District in South India. Indian J Ophthalmol. 2013 Dec;61(12):755-8

d. **Marmamula S**, Keeffe JE, Narsaiah S, Khanna RC, Rao GN. Population-based assessment of sensitivity and specificity of a pinhole for detection of significant refractive errors in the community. Clin Exp Optom. 2014 Nov;97(6):523-7

3) Post my doctoral studies, I developed the Rapid Assessment of Visual Impairment (RAVI) methodology, a low-cost epidemiological tool to understand the prevalence, causes and risk factors for visual impairment among those aged 40 years and older. This methodology is quick, low cost and uses local resources. These attributes render the application of this methodology in

the same geographical location at different time points to understand the temporal trends in visual impairment over time.

a. **Marmamula S**, Narsaiah S, Shekhar K, Khanna RC, Rao GN. Visual Impairment in the South Indian State of Andhra Pradesh: Andhra Pradesh - Rapid Assessment of Visual Impairment (AP-RAVI) Project. PLoS One 2013;8:e70120.
b. **Marmamula S**, Khanna RC, Narsaiah S, Shekhar K, Rao GN. Prevalence of spectacles use in Andhra Pradesh, India: rapid assessment of visual impairment project. Clin Experiment Ophthalmol. 2014 Apr;42(3):227-34.
c. **Marmamula S**, Khanna RC, Shekhar K, Rao GN. Outcomes of Cataract Surgery in Urban and Rural Population in the South Indian State of Andhra Pradesh: Rapid Assessment of Visual Impairment (RAVI) Project. PLoS One. 2016 Dec 5;11(12):e0167708. doi: 10.1371/journal.pone.0167708.
d. **Marmamula S**, Khanna RC, Kunuku E, Rao GN. Near visual impairment and spectacle coverage in Telangana, India. Clin Exp Ophthalmol. 2017 Mar 9. doi: 10.1111/ceo.12943.

4) Eye health among traditional and allied occupations is an area of my interest. I have conducted population-based studies on visual impairment in cloth weaving and fishermen communities in the south Indian state of Andhra Pradesh, India.

a. **Marmamula S**, Narsaiah S, Shekhar K, Khanna RC. Presbyopia, spectacles use and spectacle correction coverage for near vision among cloth weaving communities in Prakasam district in South India. Ophthalmic Physiol Opt 2013.
b. **Marmamula S**, Narsaiah S, Shekhar K, Khanna RC. Visual Impairment among Weaving Communities in Prakasam District in South India. PLoS One. 2013;8(2):e55924. Epub 2013 Feb 7.
c. **Marmamula S**, Madala SR, Rao GN. Prevalence of uncorrected refractive errors, presbyopia and spectacle coverage in marine fishing communities in South India: Rapid Assessment of Visual Impairment (RAVI) project. Ophthalmic Physiol Opt.2012 Mar;32(2):149-55.
d. **Marmamula S**, Madala SR, Rao GN. Rapid assessment of visual impairment (RAVI) in marine fishing communities in South India--study protocol and main findings. BMC Ophthalmol. 2011 Sep 19;11:26.
e. **Marmamula S**, Keeffe JE, Raman U, Rao GN. Population-based cross-sectional study of barriers to utilization of refraction services in South India: Rapid Assessment of Refractive Errors (RARE) Study. BMJ Open. 2011 Jul 15;1(1):e000172.

5) I carried out an epidemiological study to understand the burden of visual impairment in elderly populations residing in 'home for elderly' centres in India. This was the first study on eye health among the elderly population in the state.

a. **Marmamula S**, Ravuri CS, Boon MY, Khanna RC. A cross-sectional study of visual impairment in elderly population in residential care in the South Indian state of Andhra Pradesh: a cross-sectional study. BMJ open 2013;3.

b. **Marmamula S**, Ravuri LVCS, Boon MY, Khanna RC. Spectacle Coverage and Spectacles Use among Elderly Population in Residential Care in the South Indian State of Andhra Pradesh. BioMed Research International 2013;2013:5.

Ongoing Research projects

Longitudinal Eye health, Aging and Disability Study (LEADS) in the states of Andhra Pradesh and Telangana in India

2023 - 2027

Funding support Wellcome Trust DBT / India Alliance as a part of Intermediate Career Fellowship in Public Health

This aims to assess the incidence, causes, and risk factors of visual impairment and to test the impact of interventions such as cataract surgery and spectacles to improve visual function, activities of daily living, falls and fear of falling, and depression among the elderly in the community.

Role: PI

Cognitive Level Enhancement through Vision Exams and Refraction - A randomized controlled trial (RCT) to assess the impact of near and distance spectacles on reducing rates of cognitive decline with aging in community-dwelling older people in India

2023 - 2027

Funding agency: Wellcome - Investigator Award in Science awarded to Dr. Nathan Congdon (Queen's University Belfast)

Abstract: The aim is to determine whether free near and distance glasses provided to older adults living in or near Hyderabad, India, aged ≥ 60 years, with under- or uncorrected refractive error and normal baseline hearing and cognition (HMSE > 18), can reduce rates of cognitive decline, measured by a global cognitive score from the LASI-DAD cognitive testing battery over 36 months.

Role: Co-investigator / Lead for study implementation

Completed Research Projects

Vision and eye health in Occupational Groups Study (VOGS) in the state of Telangana, India

2019 - 2023

Funding support: Lions Clubs International Foundation (LCIF) – SightFirst Research Grant, USA

This study aims to assess the prevalence of ocular morbidity (including dry eye) and common causes of distance and near vision impairment in occupational groups involved in intensive near work. Another objective of this is to assess the impact of interventions such as spectacles for distance and near vision, vision therapy for binocular vision anomalies, and treatment of ocular morbidity for better work productivity and visual functions among people involved in near-work intensive occupations.

Role: PI

Hyderabad Ocular Morbidity in Elderly Study (HOMES) project. 2017 - 2020
This research aimed to investigate the prevalence and causes of visual impairment and assess the impact of an intervention including the provision of cataract surgery and spectacles on the visual function of elderly individuals living in residential care.
Funding support: Wellcome Trust DBT / India Alliance as a part of Early Career Fellowship in Public Health
Role: PI

Assessing the trends in prevalence of visual impairment in Telangana, India. S Marmamula (PI) 2017
Funding support: Lions Clubs International Foundation (LCIF) – SightFirst Research Grant, USA
This study aimed to assess the trends in the prevalence of visual impairment in two districts where a baseline survey was done in 2012.
Role: PI

Andhra Pradesh Eye Disease Study – III Rohit Khanna (PI) 2012 - 2016
Funding support: L V Prasad Eye Institute, India / Lions Club International Federation, USA
This study is a follow-up of the original cohort of Andhra Pradesh Eye Disease Study - I conducted during 1996 – 2000.
Role: Co-investigator and lead, Quality Control

Rapid Assessment of Visual Impairment Project S Marmamula (PI) 2014
Funding support: Christoffel-Blindenmission (CBM), Germany
This study aimed to assess the impact of LVPEI secondary and primary eye care network on the prevalence of visual impairment in Adilabad and Mahbubnagar districts, India.
Role: PI

Rapid Assessment Studies in Andhra Pradesh, India S Marmamula (PI) 2011 - 2012
Funding support: L V Prasad Eye Institute
A series of Rapid Assessment Surveys were conducted in Vijayawada, Paloncha and Warangal regions in Andhra Pradesh, India. These studies were aimed to provide baseline data for planning eye care services in the region.
Role: PI

Visual Impairment in Weaving Communities S Marmamula (PI) 2011 - 2012
Funding support: OneSight – Luxottica Foundation
This project aimed to assess the prevalence Assessment of visual impairment, refractive errors and presbyopia in cloth weaving communities. This study investigated the prevalence and causes of visual impairment, refractive errors and presbyopia in cloth weaving communities in Prakasam district in South India.
Role: PI

Rapid Assessment of Refractive Errors S Marmamula (PI) 2006 – 2010

Funding support: Vision CRC, Australia

The major goals of this project were to develop, and field test a rapid assessment methodology for detection of refractive error in the population aged 16 – 49 years in South India.

Role: PI (PhD Project)

Refractive Error Study in Children Dandona L (PI)

2000 **Funding support:** World Health Organization, Geneva, under Contract N01-EY-2103 with the National Institutes of Health, Bethesda, Maryland, USA

The major goal of this project was to assess the prevalence of refractive error and related visual impairment in school-aged children in the rural population of the Mahabubnagar district in the southern Indian state of Andhra Pradesh.

Role: Research Optometrist / Co-Investigator

Andhra Pradesh Eye Disease Study Dandona L (PI) 1996 - 2000

Funding support: Hyderabad Eye Research Foundation and Christoffel-Blindenmission, Germany.

The major goal of this project was to assess the prevalence and causes of visual impairment in the south India State of Andhra Pradesh, India.

Role: Research Optometrist / Co-Investigator

Contributions to Primary Eye Care – Technical / Task force memberships at State and National level

- **Kanti Velugu Eye Health Initiative (Telangana and Andhra Pradesh) –** Technical Committee member on this massive statewide universal Eye Health Initiative by the Government of Telangana and Andhra Pradesh, India
- **Primary Eye Care -** Technical Committee member constituted to develop Primary Eye Care as part of the national programme under the Government of India.

List of publications – 116 / Book chapters - 4 (H-Index-34; Total citations: 6220; Total publications - 116)

Books:

- Khanna, R.C., Rao, G.N. and **Marmamula, S**. eds., 2019. Innovative approaches in the delivery of primary and secondary eye care. Springer Nature Publication (available on Amazon)

Editorial board positions

1. British Journal of Ophthalmology
2. Nature Scientific Reports

Op-eds/Editorials in Newspapers/Media coverage

1. https://www.expresshealthcare.in/blogs/guest-blogs-healthcare/primary-eye-care-in-rural-areas-challenges-and-opportunities/414580/
2. https://www.thehindu.com/opinion/op-ed/as-india-ages-keeping-an-eye-on-the-elderly/article65955726.ece
3. https://www.thehindu.com/opinion/op-ed/a-new-vision-for-old-age-care/article65208185.ece
4. https://timesofindia.indiatimes.com/city/hyderabad/city-part-of-international-study-on-protecting-eyes/articleshow/83494063.cms