

SHIMA A. DOWLA

CURRICULUM VITAE

CAMPUS ADDRESS

Physician Scientist Development Office
NIH Medical Scientist (MD/PhD) Training Program
Shelby 121, 1825 University Boulevard
University of Alabama at Birmingham
Birmingham, AL 35294-2182
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EDUCATION

2012 - 2020*	MD, PhD Medicine Public Health	University of Alabama at Birmingham Birmingham, AL
2007 - 2011	AB (Bachelor of Arts) Neuroscience Asian & Middle Eastern Studies <i>magna cum laude</i>	Dartmouth College Hanover, NH

*anticipated

PROFESSIONAL EXPERIENCE

2018	Post-Doctoral Research Scholar Department of Pediatrics, UAB School of Medicine Department of Preventive Medicine, UAB School of Medicine University of Alabama at Birmingham, Birmingham, AL Mentors: Marissa Govey Ph.D., Sarah Salvy, Ph.D. CARTWHEEL: Cognitive Aspects of Response to Treatment for Weight-related Health to Improve Eating and Exercise Earlier in Life (P30DK056336) Leveraging Ongoing Home Visitation Programs to Address Obesity Disparities among Underserved, Low-Income Mothers and Children (2U54MD000502-15)
2014 – 2017	Pre-Doctoral Fellow, Medical Scientist Training Program (MSTP) Center for Clinical & Translational Science University of Alabama at Birmingham, Birmingham, AL Mentor: Kevin Fontaine, Ph.D. Phenotypic Characteristics and Dietary Treatment of Pediatric Non-Alcoholic Fatty Liver Disease (1TL1TR001418-01 and T32GM008361)
2013	NIDDK Medical Student Summer Research Program Investigator Department of Preventive Medicine, UAB School of Medicine University of Alabama at Birmingham, Birmingham, AL

Mentor: Monika Safford, M.D.
Qualitative analysis of barriers to cardiovascular health improvement for individuals living in the Alabama Black Belt. (DK079626)

- 2011 – 2012 Dartmouth-Fogarty International Fellow
Department of Medicine, Dartmouth Hitchcock Medical Center
Dartmouth College, Hanover, NH
Mentor: Ford von Reyn, M.D.
Nutritional status of HIV-TB co-infected women in Dar es Salaam, Tanzania. (R01HD057614)
- 2010 – 2011 Senior Research Project
Department of Asian & Middle Eastern Studies (AMES)
Dartmouth College, Hanover, NH
Mentor: Sienna Craig Ph.D.
Medical anthropological study examining factors associated with health care decision-making among residents in a Dhaka, Bangladesh slum. (AMES Travel Award, Dickey Center for International Understanding Fellowship Award)
- 2008 – 2009 Undergraduate Research Assistant
Department of Pediatrics, Dartmouth Hitchcock Medical Center
Dartmouth College, Hanover, NH
Mentor: Peter Wright, M.D.
Epidemiological study investigating the prevalence of the oncogenic HPV infection among sexually active women and feasibility of HPV vaccination program in Port-au-Prince, Haiti. (James O. Freedman Presidential Scholarship)
- 2008 Undergraduate Research Assistant
Spinal Cord & Brain Injury Research Center
University of Kentucky, Lexington, KY
Mentors: Theresa Thomas Ph.D. and Jonathan Lifshitz, Ph.D.
(1) Independent research study examining spatiotemporal dynamics and cortical sensorimotor integration of whisker movements in traumatic brain injury (TBI) rodent model. (2) Adaptation of electrophysiology methods to study glutamate neurotransmission in rodent model.
- 2006 – 2007 Research Assistant
Department of Anatomy & Neurobiology, University of Kentucky Medical Center
University of Kentucky, Lexington, KY
Mentors: Greg Gerhardt, Ph.D. and Theresa Thomas Ph.D.
Use of electrophysiology methods to elucidate role of the Dopamine D4 Receptor (DD4R) on dopamine and glutamate neurotransmission in DD4R \pm mice.

RESEARCH INTERESTS

1. Social determinants of obesity and metabolic disease
2. Development of nutrition and physical activity interventions for obesity and metabolic disease prevention and treatment in children and adolescents, tailored for racial/ethnic differences and SES status
3. Implementation of scalable, sustainable, cost-effective models for obesity prevention and treatment implemented in childhood

AWARDS AND FELLOWSHIPS

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| 2018 | P.E.O. Endowed Scholar (top 10% of P.E.O. Scholars), Des Moines, Iowa |
| 2018 | P.E.O. Scholar Award, P.E.O. International, Des Moines, Iowa |
| 2018 | U.S. Public Health Service Excellence in Public Health Award, UASOM Finalist, University of Alabama at Birmingham, Birmingham, AL |
| 2017 | UAB Student Excellence Award Recipient for Excellence in Service, University of Alabama at Birmingham, Birmingham, AL |
| 2017 | Delta Omega National Public Health Honor Society, Upsilon Chapter |
| 2017 | Travel Award, Association for Clinical and Translational Science, Translational Science Annual Conference. Washington, DC. |
| 2016 | Albert Schweitzer Foundation Fellow, Alabama Chapter |
| 2015 | Community Health Innovations Award Finalist (EAB), Birmingham, AL |
| 2015 | Community Foundation of Greater Birmingham, Grant Recipient (EAB), Birmingham, AL |
| 2015 | TL-1 Pre-doctoral Fellowship, Center for Clinical and Translational Science, University of Alabama at Birmingham, Birmingham, AL |
| 2015 | Travel Award, American Physician Scientist Association, American Society for Clinical Investigation, Association of American Physicians Joint Meeting. Chicago, IL |
| 2013 | NIDDK Medical Student Research Fellowship, University of Alabama at Birmingham, Birmingham, AL |
| 2012 | Dean's Scholarship, UAB School of Medicine, University of Alabama at Birmingham, Birmingham, AL |
| 2011 | <i>magna cum laude</i> , Dartmouth College, Hanover, NH |
| 2011 | Dartmouth-Fogarty International Fellowship, Dartmouth College, Hanover, NH |
| 2010 | Harry S. Truman Scholar Finalist, Washington D.C. |
| 2010 | Undergraduate Research Award, Dartmouth College, Hanover, NH |
| 2009 | Travel Award & Named Scholar, Dickey Center for International Understanding, Dartmouth College, Hanover, NH |
| 2009 | Academic Citations in Writing Seminar & Formal Spoken Arabic, Hanover, NH |
| 2009 | James O. Freedman Presidential Scholarship, Dartmouth College, Hanover, NH |
| 2007 | 1 st place, Central Kentucky Regional Science & Engineering Fair, Medicine & Health, Lexington, KY |

PROFESSIONAL SOCIETIES

American Medical Association
American Physician Scientist Association
Association for Clinical and Translational Sciences
The Obesity Society
Southern Pediatric Endocrine Society

PROFESSIONAL DEVELOPMENT

Strengthening Causal Inference in Behavioral Obesity Research Short Course, July 25-29, 2016, University of Alabama at Birmingham
Albert Schweitzer Leadership Conference, November 4-5, 2016, Boston, MA

COUNCILS/COMMITTEES

2017 – Member, Alabama Arise
2016 – Member, National Research Committee, Society of Student-Run Free Clinics
2015 – Member, Alabama Obesity Task Force
2013 – 2014 Member, Committee on Global & Public Health, American Medical Association-Medical Student Section

UNIVERSITY ACTIVITIES

2018 – President, Inaugural Albert Schweitzer Fellows, Alabama Chapter
2016 – 2017 Chair, UAB Center for Advanced Medical Studies (CAMS) Research Seminar Committee, University of Alabama at Birmingham.
2015 – 2016 Member, UAB MSTP CAMS Committee, University of Alabama at Birmingham.
2015 – 2016 Chair, Research & Grants Committee, Equal Access Birmingham, School of Medicine, Birmingham, AL.
2014 – Longitudinal Research Officer, Equal Access Birmingham, School of Medicine, Birmingham, AL.
2014 – 2015 Member, UAB MSTP Communications Committee, University of Alabama at Birmingham.
2012 – 2015 Learning Communities (LC) Executive Board Member, School of Medicine, University of Alabama at Birmingham.

PUBLICATIONS

Peer-reviewed Publications:

1. Brown A, Altman D, Baranowski T, Bland M, Dawson J, Dhurandhar N, **Dowla S**, Fontaine K, Gelman A, Heymsfield S, Jayawardene W, Keith S, Kyle T, Loken E, Oakes M, Stevens J, Thomas D, Allison D. Childhood Obesity Intervention Studies: A Narrative Review and Guide for Investigators, Authors, Editors, Reviewers, Journalists, and Readers to Guard Against Exaggerated Effectiveness Claims. *Obesity Reviews*. 2019 Aug 19. doi: 10.1111/obr.12923. [Epub ahead of print]. Review. PubMed PMID: 31426126.

2. Pelham J, Hanks L, Aslibekyan S, **Dowla S**, Ashraf, A. Children with Type 2 Diabetes Mellitus with Higher Hemoglobin A1C Harbor Worse Atherogenic Lipoprotein Profiles. *Journal of Clinical & Translational Endocrinology*. 2018 Dec. <https://doi.org/10.1016/j.jcte.2018.11.006>
3. **Dowla S**, Pendergrass M, Bolding M, Gower B, Fontaine K, Ashraf A, Soleymani T, Morrison S, Goss A. Effectiveness of a carbohydrate restricted diet to treat non-alcoholic fatty liver disease in adolescents with obesity: Trial design and methodology. *Contemp Clin Trials*. 2018 May;68:95-101. doi: 10.1016/j.cct.2018.03.014. Epub 2018 Mar 27. PubMed PMID: 29601997.
4. **Dowla S**, Aslibekyan S, Goss A, Fontaine K, Ashraf AP. Dyslipidemia is associated with pediatric nonalcoholic fatty liver disease. *J Clin Lipidol*. 2018 Apr 3. pii: S1933-2874(18)30194-6. doi: 10.1016/j.jacl.2018.03.089. [Epub ahead of print] PubMed PMID: 29699915.
5. Makeeva V, Gullett J, **Dowla S**, Olson K, Resuehr D. Evaluation of Homemade Ballistic Gelatin Phantoms as a Low-Cost Alternative to Commercial-Grade Phantoms in Medical Education. *Med. Sci. Ed*. 2016 May; 26. Epub 2016 May 19.
6. Bakari M, Wamsele J, MacKenzie T, Maro I, Kimario J, Ali S, **Dowla S**, Hendricks K, Lukmanji K, Neke NM, Waddell R, Matee M, Pallangyo K, von Reyn CF. Nutritional status of HIV-infected women with tuberculosis in Dar es Salaam, Tanzania. *Public Health Action*. 2013 3(3):224-29. PMID: 26393034

Submitted Publications:

1. Goss AM, Gower BA, Soleymani T, Stewart MC, Pendergrass M, Lockhart M, Krantz O, **Dowla S**, Bush NC, Fontaine KR. Depletion of Visceral and Intermuscular Adipose Tissue in Response to a Ketogenic Diet in Older Adults with Obesity: A Randomized Clinical Trial. *American Journal of Clinical Nutrition*. Status: Submitted
2. Goss AM, Gower BA, Soleymani T, Stewart MC, Pendergrass M, Lockhart M, Krantz O, **Dowla S**, Bush NC, Garr Barry V, Fontaine KR. Effects of weight loss during a very low carbohydrate diet on specific adipose tissue depots and insulin sensitivity in older adults with obesity. *Metabolism*. Status: Submitted
3. Goss AM, Gower BA, Soleymani T, Stewart MC, Pendergrass M, Lockhart M, Krantz O, **Dowla S**, Bush NC, Garr Barry V, Fontaine KR. Weight loss during a low carbohydrate diet in older adults with obesity. *New England Journal of Medicine*. Status: Submitted
4. Goss AM, **Dowla S**, Pendergrass M, Ashraf A, Bolding M, Morrison S, Amerson A, Soleymani T, Gower B. Effects of a carbohydrate-restricted diet on hepatic lipid content in adolescents with non-alcoholic fatty liver disease. *Pediatric Obesity*. Status: Submitted

Publications in Preparation:

1. Gowe M, **Dowla S**, Prendergast B, Keller C, Noel G, Dutton G. Executive Function as a Predictor of Individual Variability in Outcomes of Behavioral Treatment for Obesity. *Current Obesity Reports*.

BOOK CHAPTERS

1. **Dowla S**, Goss A, Ashraf A. Non-Alcoholic Fatty Liver Disease in Children with Obesity. In: Bagchi D, eds. *Global Perspectives on Childhood Obesity: Current Status, Consequences, and Prevention*. 2nd ed. London, UK: Elsevier/Academic Press.

ORAL PRESENTATIONS & INVITED LECTURES

1. **Dowla S**, Aslibekyan S, Ashraf A. Phenotypic Characteristics of Pediatric Non-Alcoholic Fatty Liver Disease. Translational Science Annual Conference 2017; Washington DC.
2. **Dowla, S**. Characterizing and Treating Pediatric Non-Alcoholic Fatty Liver Disease. UAB Diabetes Research Center's Intervention and Translational Seminar Series 2017; Birmingham, AL.
3. **Dowla S**, Fernandez T, Ashraf A. An Unusual Case of Galactorrhea with Normal Serum Prolactin. Southern Pediatric Endocrine Society Annual Meeting 2016; Biloxi, MS.
4. **Dowla S**, Hess M, Shelton K, Hudak K, Pritchett M, Redmond N. Innovations in the Development of an Interdisciplinary Research Infrastructure: Equal Access Birmingham. Society for Student Run Free Clinics Annual Conference 2016; Phoenix, AZ.
5. **Dowla, S**. Testing the Effect of a Reduced Carbohydrate Diet on Metabolic Health, Eating Behaviors, and Quality of Life in Obese Adolescents. UAB/VA Health Services, Outcomes and Effectiveness Research Training Program 2016; Birmingham, AL.
6. *Prendergast, K., Keller, C., **Dowla, S.**, & Gowe, M.A. Identifying potential biomarkers of cognitive dysfunction in pediatric obesity: Associations between cognitive function, fasting glucose, and cortisol. Invited trainee oral poster presentation at the Society of Pediatric Psychology Annual Conference, Pediatric Obesity SIG, 2019; New Orleans, LA.

POSTER PRESENTATIONS

1. *Prendergast, K., Keller, C., **Dowla, S.**, Dutton, G., & Gowe, M.A. Inflammatory biomarkers of cognitive dysfunction in pediatric obesity: associations between Executive Function, C-Reactive Protein, Interleukin 6, and Tumor Necrosis Factor alpha. Poster presented at the Society of Pediatric Psychology Annual Conference 2020; Dallas, TX.

2. *Prendergast, K., Keller, C., **Dowla, S.**, & Govey, M.A. Identifying potential biomarkers of cognitive dysfunction in pediatric obesity: Associations between cognitive function, fasting glucose, and cortisol. Poster presented at the Society of Pediatric Psychology Annual Conference 2019; New Orleans, LA.
3. Govey, M.A., Keller, C., Prendergast, K., **Dowla, S.**, Frese, S., Moseley, Z., & Dutton, G. Parent executive function and associations with child executive function and adiposity in pediatric obesity. Oral presentation accepted for presentation as part of symposium (Examining associations between ADHD-related deficits and Health Behaviors in Youth: Recent Research Highlighting Increased Obesity Risk, Chair: C. Lim) at the Society of Pediatric Psychology Annual Conference 2019; New Orleans, LA.
4. Goss AM, **Dowla S**, Pendergrass M, Ashraf A, Bolding M, Soleymani T, Morrison S, Gower B. The effects of a carbohydrate-restricted diet on hepatic lipid content in adolescents with non-alcoholic fatty liver disease: a randomized clinical trial. ADA Scientific Sessions 2019, San Francisco, CA. 68 (Supplement 1) 1906-P; <https://doi.org/10.2337/db19-1906-P>
5. Goss AM, **Dowla S**, Pendergrass M, Ashraf A, Bolding M, Soleymani T, Morrison S, Gower B. The effects of a carbohydrate-restricted diet on hepatic lipid content and insulin resistance in adolescents with non-alcoholic fatty liver disease: a randomized clinical trial. Emerging Science of Carbohydrate Restriction and Nutritional Ketosis 2018, Columbus, OH.
6. **Dowla S**, Aslibekyan S, Goss, A, Fontaine K, Ashraf A. Dyslipidemia is Associated with Pediatric Non-Alcoholic Fatty Liver Disease. UAB Medical Student Research Day 2017, Birmingham, AL.
7. **Dowla S**, Aslibekyan S, Ashraf A. Racial Differences in Pediatric Non-Alcoholic Fatty Liver Disease. UAB Health Disparities Research Symposium 2017, Birmingham, AL.
8. Dowla S, Aslibekyan S, Ashraf A. Phenotypic Characteristics of Pediatric Non-Alcoholic Fatty Liver Disease. Translational Science Annual Conference 2017; Washington DC.
9. **Dowla S**, Williams C, Black J, Chellappan R, Redmond N. Implementing a Needs Assessment at Equal Access Birmingham: Pilot Study. Society for Student Run Free Clinics Annual Conference 2016; Phoenix, AZ.
10. *Shelton K, **Dowla S**, Hakim J, Redmond N. Characterizing a Patient Population: Chronic Conditions and Associated Factors Among Patients at Equal Access Birmingham. Society for Student Run Free Clinics Annual Conference 2016; Phoenix, AZ.
11. **Dowla S**, Andreae S, Safford M. Barriers to Achieving Cardiovascular Health in Rural Alabama: Perspectives from Providers, Peer Advisors and Patients. American Physician Scientist Association, American Society for Clinical Investigation, and Association of

American Physicians Joint Meeting 2015; Chicago, IL.

12. **Dowla S.**, Fontaine, K., Allison, D. Does Providing Fresh Fruits and Vegetables to Children & Adolescents Reduce Weight? Designing a Randomized Control Trial. Community Engagement Institute 2015, Birmingham, AL.
13. **Dowla S**, Andreae S, Safford M. Barriers to Achieving Cardiovascular Health in Rural Alabama: Perspectives from Providers, Peer Advisors and Patients. NIDDK Medical Student Research Symposium 2013, Nashville TN.
14. **Dowla S**, Andreae S, Safford M. Barriers to Achieving Cardiovascular Health in Rural Alabama: Perspectives from Providers, Peer Advisors and Patients. Minority Health and Health Disparities Research Symposium 2015, Birmingham, AL.
15. **Dowla S**, Thomas TC, Robinson K, Gu HH, Pomerleau F, Huettl P, Gerhardt GA, Glaser PEA. Glutamate Neurotransmission in Dopamine Transporter Knock-In Mice. Society for Neuroscience Brain Research Day 2007; Lexington, KY.
16. Glaser PEA, Thomas TC, **Dowla S**, Gu HH, Gerhardt GA. Altered Glutamate neurotransmission in cocaine-insensitive dopamine transporter (DAT^{vcv}) mice. 37th Annual Meeting of the Society for Neuroscience 2007; San Diego, CA

* Indicates Mentee

OTHER PUBLICATIONS

1. **Dowla, S.** Phenotypic Characteristics and Dietary Treatment of Pediatric Non-Alcoholic Fatty Liver Disease [PhD dissertation]; UAB School of Public Health, Birmingham, AL. 2017.
2. **Dowla, S.** Staying Shustho: Health Care Decision Making in Urban Bangladesh [senior thesis]. Dartmouth College, Hanover, NH. 2011.

TEACHING EXPERIENCE

Course: Introduction to Clinical Medicine, UAB School of Medicine, August 2014 –
Level: Medical Students (MS 1-2)
Responsibilities: Taught history and physical exam skills to medical, nursing, and physician assistant students through the UAB Clinical Skills Center. Trained standardized patients for objective structured clinical exams (OSCEs) and formative patient encounters.

Course: Health Disparities and Culturally Responsive Care, UAB School of Medicine, January – April 2014
Level: Medical Students (MS 1-4)
Responsibilities: Developed syllabus, organized course content, contacted guest lecturers, took attendance, and assisted instructor in grading course assignments

COMMUNITY VOLUNTEER EXPERIENCE

- 2016 – 2017 Alabama Schweitzer Fellow, Birmingham, AL.
Project: Implementing a Comprehensive Healthy Living Intervention for Diabetic Patients at Equal Access Birmingham
- 2016 Organizer, “Maximizing Your Potential as a Healthcare Provider” Schweitzer Fellowship Educational Symposium, University of Alabama-Birmingham, Birmingham, AL
- 2015 – 2016 BMI Station Volunteer, Take Your Child to the Doctor Day.
Birmingham Mayor’s Office & Children’s of Alabama, Birmingham, AL
- 2012 – 2017 Clinical Officer, Equal Access Birmingham, Birmingham, AL.
- 2011 – 2012 Homeless Outreach Specialist and Refugee Resettlement Case Worker, AmeriCorps. United Neighborhood Health Services, Nashville, TN.
- 2010 – 2011 Clinic Volunteer, The Dhaka Project, Dhaka, Bangladesh.
- 2010 – 2011 Student Director, Language in Motion, Tucker Foundation, Dartmouth College, Hanover, NH.
- 2009 Intern, Center of Gender, Sexuality & HIV/AIDS, BRAC University School of Public Health, Dhaka, Bangladesh.
- 2007 – 2009 Volunteer, International Humanitarian Foundation, Dartmouth Chapter
Organized community service trip to Yambiro, Ecuador

COMMUNITY SPEAKING ENGAGEMENTS

- 2017 Panelist, Health and Human Rights Course, UAB Honors College, University of Alabama-Birmingham, Birmingham, AL
- 2016 Panelist, “Getting the Most out of Your Graduate Degree Program”, University of Alabama-Birmingham, Birmingham, AL

GRANT SUPPORT

NIH 1TL1 TR001418

11/1/14 – 10/31/15

UAB Center for Clinical and Translational Science

Role: Pre-doctoral Fellow

NIH T32 GM008361

UAB Medical Scientist Training Program

Role: MD/PhD Student

NIH DK079626

6/1/13– 8/1/13

Medical Student Summer Research Fellowship

UAB Diabetes Research Center

Title: Qualitative analysis of barriers to cardiovascular health improvement for individuals living in the Alabama Black Belt

Mentor: Monika Safford, M.D.

Role: Fellow

Not Funded

NIH 1 F30 DK112566-01A1

6/1/17 – 5/31/20

Ruth L. Kirschstein National Research Service Award (NRSA) Individual Pre-doctoral MD/PhD Fellowship

Title: Testing the Effect of a Reduced Carbohydrate Diet on Metabolic Health, Eating Behaviors, and Quality of Life in Obese Adolescents

Impact Score: 36

Role: PI (Predoctoral Fellow)

Community Health Innovation Grant Award

Equal Access Birmingham

Title: Community Health Leader Initiative to Improve Patient Navigation and Healthy Lifestyles