



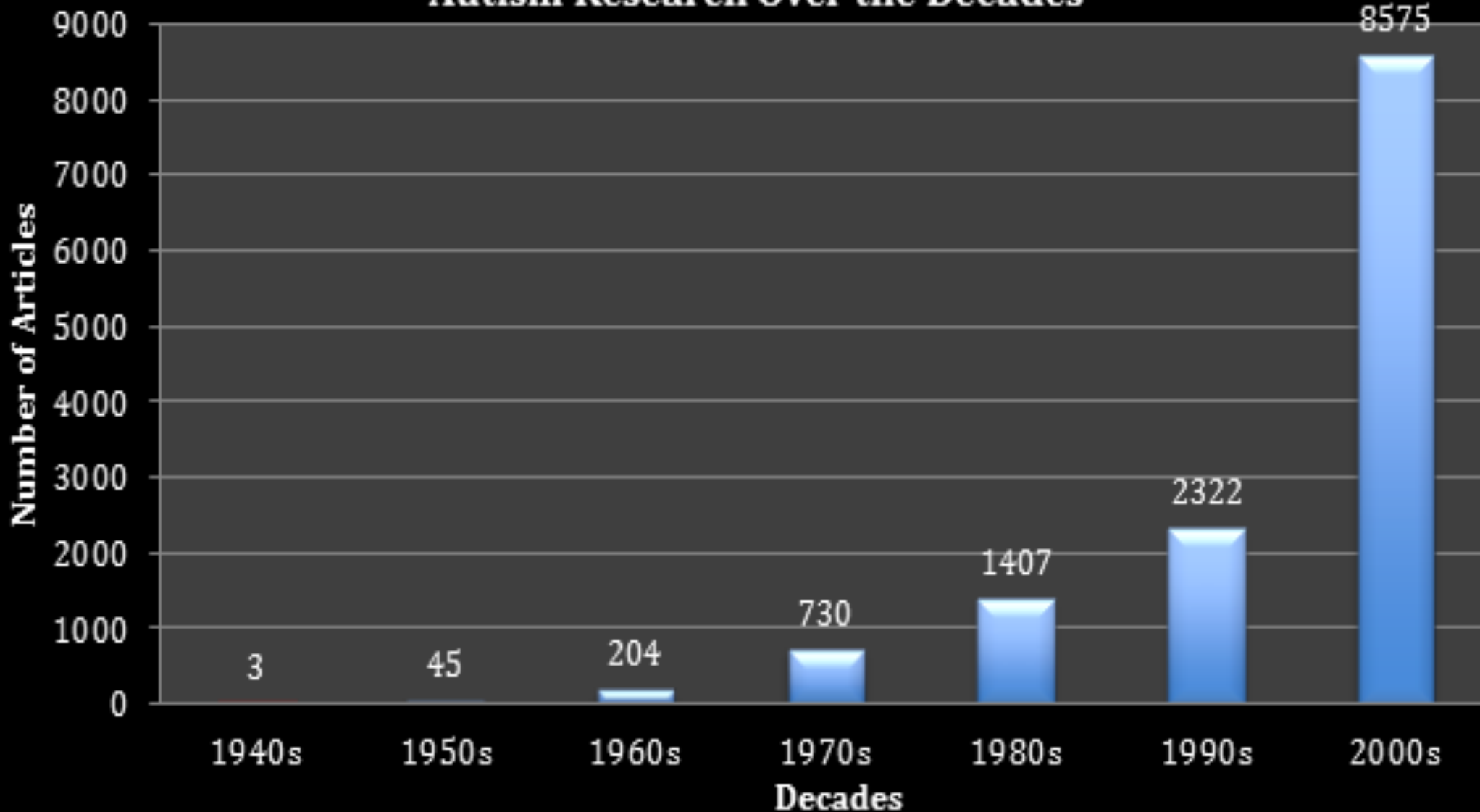
Looking for Way Forward with Autism: Educational Partnerships & Research

Overview



- ▶ **Recent Findings**
- ▶ **Importance of Collaboration**
- ▶ **AUTISM Research in AFRICA (Nigeria)**
- ▶ **Way Forward to Becoming Active Players**

Autism Research Over the Decades



Source: *Autism Reading Room: GrRoss Senter, Karthik Kumar, and Sharmila Banerjee-Basu, Ph.D.*
http://readingroom.mindspec.org/?page_id=572

AUTISM RESEARCH

Research Highlights

Study focuses on the genetic architecture of autism
June 30, 2017

Medical conditions preceding autism may aid diagnosis
May 30, 2017

Evidence-based review tackles non-genetic risk factors for autism
April 19, 2017

Can brain imaging deliver early autism diagnosis?
March 7, 2017

A new look at the benefits of exercise for autism
February 15, 2017

What do co-occurring symptoms teach us about the genetics of autism?
January 18, 2017

Study links autism traits to maternal vitamin D deficiency

Infection during pregnancy linked to autism risk in baby
December 13, 2016

New form of autism therapy leads to long-term symptom reduction
November 24, 2016

Study links high maternal BMI to ASD risk
October 7, 2016

New oxytocin trial reveals important clues for ASD therapy
September 20, 2016

Common diabetes drug treats weight gain from ASD medications
September 6, 2016

Touch sensitivity on iPad - an indicator for autism?
August 30, 2016

Study links key brain process to ASD risk
August 21, 2016

Right brain hemisphere linked to ASD motor deficits
August 10, 2016

School-based therapy for anxiety with ASD
August 2, 2016

ASD and anxiety linked to social brain areas
July 28, 2016

Do skin cells hold clues to autism? Study says yes
July 19, 2016

Very premature babies at increased risk for autism
July 12, 2016

Gut bacteria linked to social behaviors
June 22, 2016

Autism subtype linked to prenatal immune system
June 14, 2016

newsletter

Your e-mail address

Subscribe

Research Updates

9 November 2012

Home video study reveals early ASD behaviors

Sex-Related Social Differences Amplified in ASD

First trimester a key time for autism?
June 18, 2015

A new look at the benefits of exercise for autism
February 15, 2017

Recent Findings 2015-2017

- ▶ Large study on parental age and autism finds increased risk among children of teen moms
- ▶ ADHD symptoms can delay autism diagnosis for years
- ▶ Study links autism to epigenetic changes in dads' sperm
- ▶ Discovery of brain-immune system link could advance understanding of autism

Can brain imaging deliver early autism diagnosis?



March 7, 2017

Recent Findings 2015-2017

- ▶ Research on females with ASD is leading us to question whether we need new or adapted screening or diagnostic tools to ensure that girls aren't put at a disadvantage
- ▶ Neuroimaging technique may help predict autism among high-risk infants
- ▶ Future Autism Diagnosis linked to Early medical condition
- ▶ The 'robot therapist'
- ▶



Recent Findings: 2015-2017

- ▶ Autism risk linked to fever during pregnancy - Prenatal exposure to maternal fever during the second trimester raised odds of autism spectrum disorder by 40 percent
- ▶ Possible early diagnosis of autism spectrum disorder through proteins in the blood
- ▶ System detects, translates sarcasm, humor on social media
- ▶ Brain Circuit Tweak Wins Her Affection (if she's a vole) - *Previously unknown mechanism underlying pair bonding behavior discovered*



Commonalities

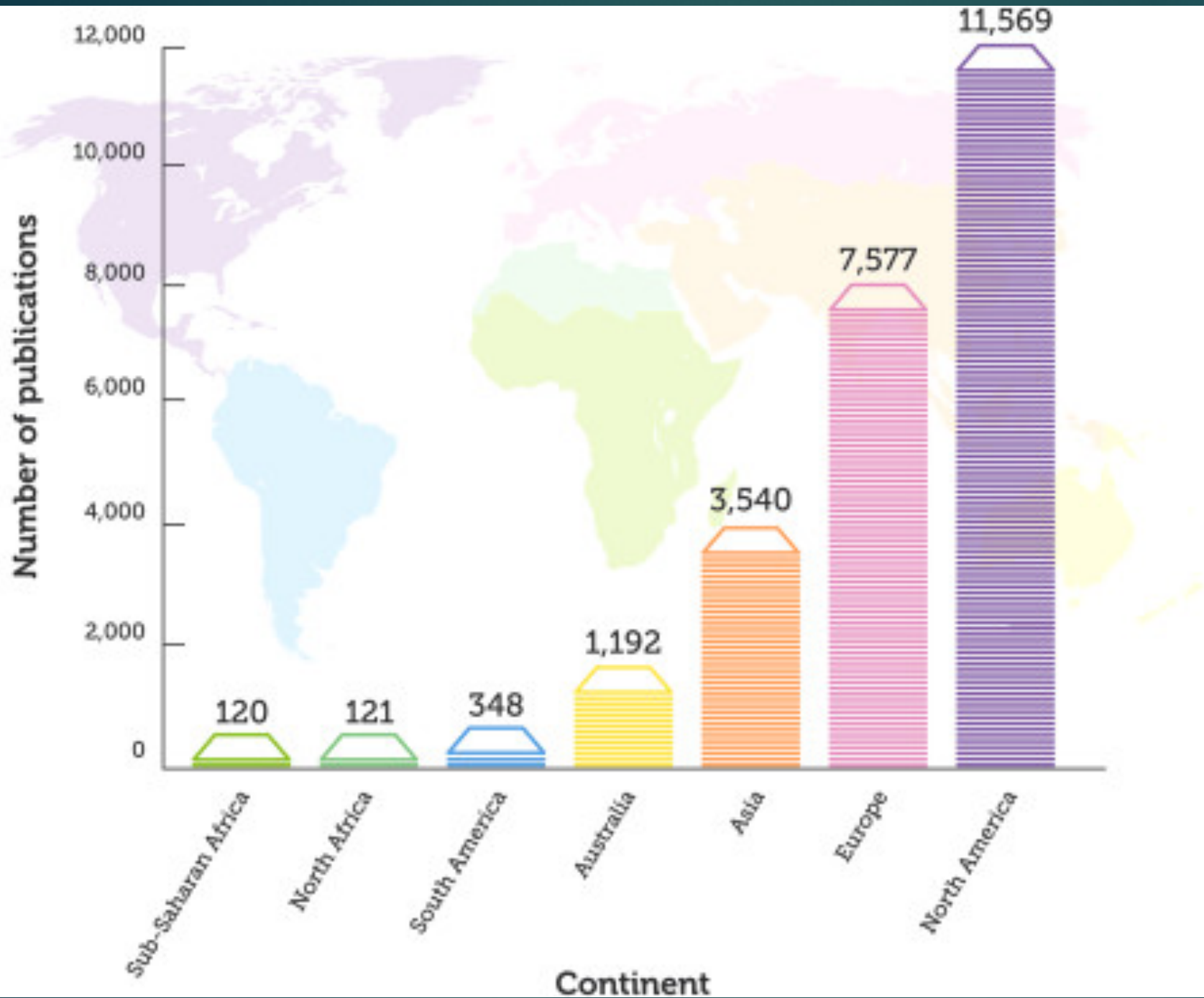


- ▶ **Multisector collaboration**
- ▶ **Information sharing**
- ▶ **Data Collection**
- ▶ **Small and large population studies**
- ▶ **Unrelenting thirst for more information**
- ▶ **Backed by governmental and non-governmental entities**
- ▶ **Public-Private Partnerships**
- ▶ **Institutional Research**
- ▶ **Samples and target population limited to the Western Hemisphere**
- ▶ **Race for more effective intervention and therapies**
- ▶ **A desire for continuous improvement and progress**

AUTISM RESEARCH IN AFRICA

- ▶ The “90-10” divide—although 90% of the world's children and adolescents live in low- and middle-income countries, only 10% of research is performed there [Kieling et al., [2011](#)].
- ▶ One of our Greatest Knowledge Gaps is about Autism in Developing Countries
- ▶ “Children and adolescents in Africa are under-treated and under-researched. The treatment gap for child and adolescent mental health and neurodevelopmental disorders is estimated to be 90% and very little research is performed in Africa. A lack of awareness and knowledge...exists in all levels of African Society...yet the need is great. The UN predicts that by 20150, 40% of the worlds children and adolescents will live in Africa. ”

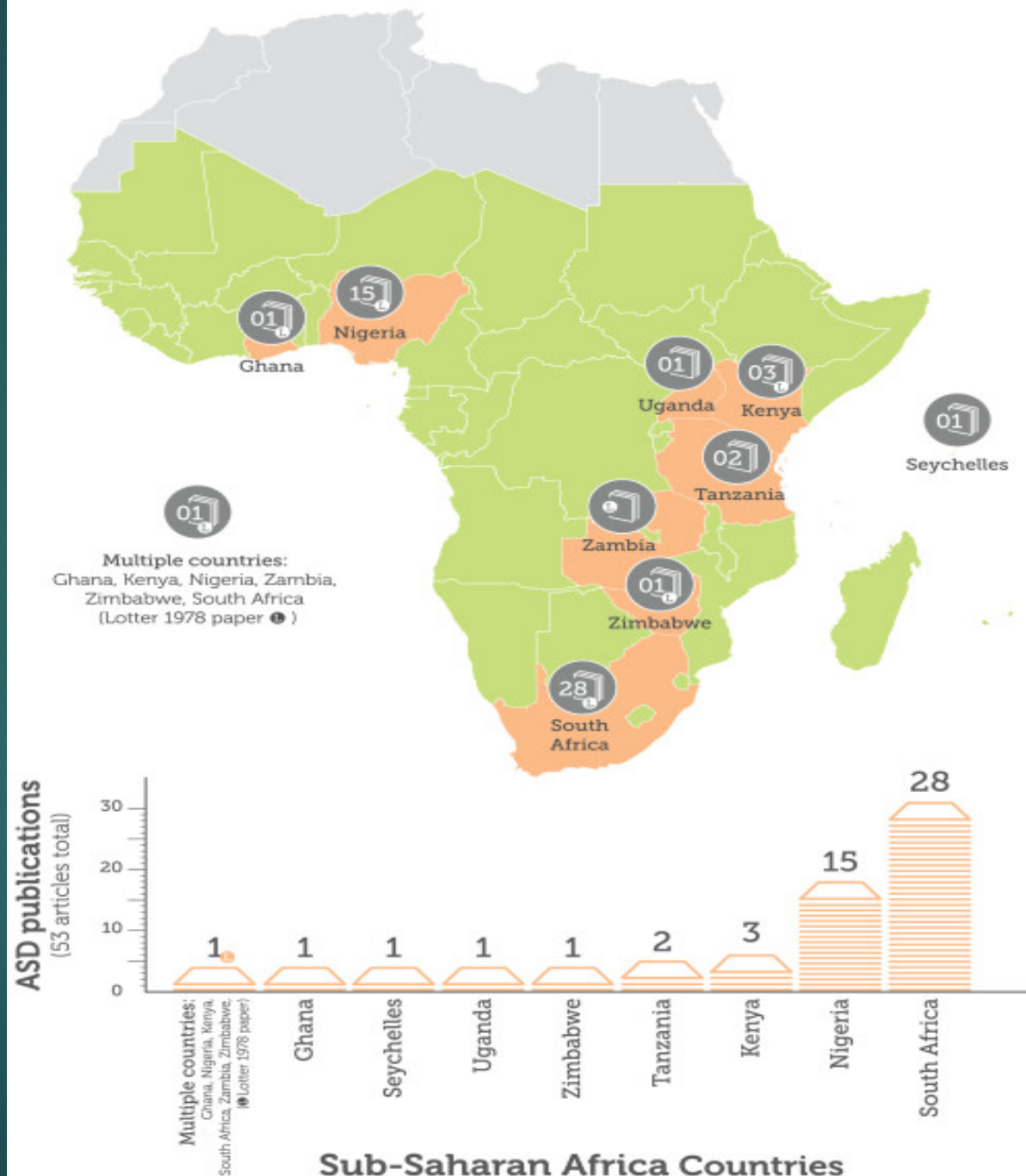
Geraldine Dawson, President, International Society for Autism Research New, April 13, 2017



**Publications
about ASD around
the Globe.**

**The figure shows the
number of
publications ever
published on ASD by
continent.**

ASD publications in Sub-Saharan Africa



Publications about ASD in sub-Saharan Africa.

The figure shows the number of peer-reviewed, data-containing publications ever published on ASD by country.

(a) phenotype ($n = 13$), (b) genetics ($n = 2$), (c) risk factors ($n = 3$), (d) screening and diagnosis ($n = 2$), (e) professional knowledge ($n = 9$), (f) interventions ($n = 11$), (g) family perspectives ($n = 8$), and (h) social-cognitive neuroscience ($n = 5$).

ASD Themes In Need of Exploration in Sub-Saharan Africa

- ▶ **Epidemiology of ASD**
- ▶ **Early interventions, including naturalistic, developmental behavioral interventions (NDBIs)**
- ▶ **Education and education systems**
- ▶ **Transitional care from childhood to adult services**
- ▶ **Treatment of ASD with medications in Africa.**
- ▶ **Access and efficacy of to behavioral intervention.**
- ▶ **Adults with ASD**
- ▶ **Use of technology for screening, diagnosis, training and monitoring**

ASD Themes In Need of Exploration in Sub-Saharan Africa

Screening Diagnosis

Need for people who speak the language

Need to use developmental history and screening tools

Challenges of translation, validation, cost of training on existing tools, need for open access, culturally

Fair and globally relevant screening and diagnostic tools for ASD

Low technology techniques

Therapies

Needs intensive therapy with frequent sessions. specifically trained therapists and one-on-one basis

ASD Themes In Need of Exploration in Sub-Saharan Africa

Phenotype

No large scale or population based studies
No use of standardized diagnostic instruments
Mainly categorical descriptions

Genetics

Need to integrate genomic/ phenotype data from SA
Understanding of etiology of and
Examine the interplay between genetic and environmental
factors

Mixed Races

ASD Themes In Need of Exploration in Sub-Saharan Africa

Genetics

- Evidence for a number of genetic disorders associated with ASD in Africa, including tuberous sclerosis, Rett syndrome, and fragile X, although the identification of these disorders is low
- Evidence for a number of genetic disorders associated with ASD in Africa, including tuberous sclerosis, Rett syndrome, and fragile X, (although the identification of these disorders is low.)

Risk Factors

High rate of communicable diseases, malaria, tuberculosis

Role of risk factors

Interplay between communicable and non communicable diseases

Need for single case control study aimed at examining a comprehensive set of potential risk factors

ASD Themes In Need of Exploration in Sub-Saharan Africa

Training & Development

Need for training of parents caregivers and families

Need more parent support groups and parent based interventions taking into account contextual factors

Need Psychoeducation of parents ...what to expect

Other Themes

- ▶ What about ASD among Africans outside African Continent
ASD among Africans among Africans
- ▶ What about etiology and explanations based on opinion?
- ▶ What about train the trainer models?
- ▶ What about aging in autism?

Other Themes

- ▶ Why is there a wide gap between age of onset of symptoms and diagnosis of ASD?
Is there any plan for a large scale epidemiological study on ASD to determine difference in prevalence of ASD between rural and urban areas?
Why is a diagnosis of ASD rarely made exclusive of intellectual disability in Africa?
- ▶ Other areas include (1) older age at diagnosis; (2) increased proportion of non-verbal cases; (3) possible infectious aetiologies; (4) lack of recognition by health care workers; and (5) attributing ASD to traditional (spiritual) causes.

Africa's Possible Contribution....



Source of new knowledge

Comparative genomic science

Mutually beneficial gains

Consistent with missions

Identify peculiarities

Incorporates cultural differences

Offer low resource techniques that work

Migrations worldwide

Community based autism detection program

Use of traditional treatments or therapeutic approaches

Moving Forward...

- ▶ **DIASPORA– Hometown Associations**
- ▶ **DUAL CITIZENS**
- ▶ **INTERNATIONAL STUDENTS- (Global Student Council)**
- ▶ **INTERNATIONAL ALUMNI OF NIGERIAN UNIVERSITIES**

Moving Forward...

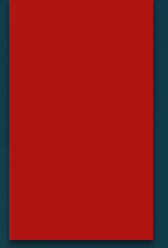
- ▶ **CHILDREN OF “BRAIN DRAINERS”**
- ▶ **GRANTS TARGETING INTERNATIONAL/GLOBAL REACH**
- ▶ **CHARITIES WORLD WIDE**
- ▶ **“BRAIN DRAINER” FACULTY**

Moving Forward...

- ▶ UNIVERSITY STUDY ABROAD
- ▶ FACULTY DEVELOPMENT AREAS
- ▶ OUTREACH GRANTS AFRICA-US Higher Education INITIATIVE
- ▶ University partnerships- “Africa Initiatives”
- ▶ Worldwide Charities
- ▶ Outreach Projects, non profits, endorsements, social media, webinars (free), webchats, Twitter, etc.



Moving Forward



- ▶ International Associations
- ▶ CODESRIA - www.codesria.org
- ▶ Partner with grant awardees
- ▶ Autism international foundation
- ▶ International Society for Autism research
- ▶ Global Development Network
- ▶ NATIONAL ENGAGEMENT SCHOLARSHIP
CONFERENCE SEPTEMBER 26-27
- ▶ International Community Engagement Awards

**AUTISM AND
DEVELOPMENTAL
DISABILITIES: CURRENT
PRACTICES AND ISSUES**

EDITED BY

ANTHONY F. ROTATORI

Saint Xavier University, USA

FESTUS E. OBIAKOR

University of Wisconsin-Milwaukee, USA

SANDRA BURKHARDT

Saint Xavier University, USA



JAI

United Kingdom – North America – Japan

