Lupus Health Disparities and Clinical Trials

SLIDE 1

Welcome to the Materials to Increase Minority Involvement in Clinical Trials (MIMICT) module – Lupus Health Disparities and Clinical Trials.

These MIMICT materials are presented by the American College of Rheumatology in collaboration with KDH Research & Communication.

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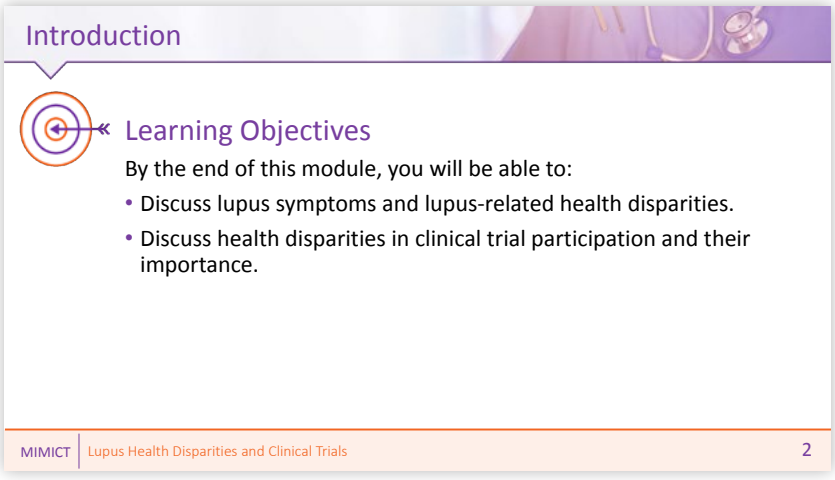
SLIDE 2



By the end of this module, you will be able to: (1) discuss lupus symptoms and lupus-related health disparities; and (2) discuss health disparities in clinical trial participation and its importance.

This discussion is important because lupus health disparities are especially relevant to the issue of low minority involvement in clinical trials. Minorities, especially African Americans, are most affected by lupus, but they remain underrepresented in clinical trial research.

Continued on next page

Continued from previous page

SLIDE 3

Specifically, this course will cover: facts and statistics about lupus, lupus health disparities, general clinical trial disparities, and disparities in lupus clinical trial participation.

Course Overview

- Facts and statistics about lupus
- Lupus health disparities
- General clinical trial disparities
- Disparities in lupus clinical trial participation

MIMICT | Lupus Health Disparities and Clinical Trials 3

SLIDE 4

Systemic lupus erythematosus (SLE) or lupus is an autoimmune disorder that causes inflammation and affects the skin, joints, and multiple organ systems in the body (Ginzler et al., 2013). It is often called "the great imitator" because it mimics the symptoms of many other diseases, which makes it difficult to diagnose.

What is Lupus?

- Lupus is an autoimmune disease that mimics the symptoms of many other diseases.
- Lupus affects the joints and organs, including the heart, kidneys, lungs, skin, and brain.
- It is not heritable, but some lupus patients have at least one relative with lupus.

(Ginzler et al., 2013; Centers for Disease Control, 2017; Lim et al., 2009; Uramoto et al., 1999)

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While lupus is not heritable, a small percentage (about 10 – 15 percent) of patients have at least one relative with a history of lupus (CDC, 2017).

In the United States, the reported prevalence of lupus is 100,000 to 500,000 patients (Lim et al., 2009; Uramoto et al., 1999). However, this prevalence may be underestimated because lupus is currently not a reportable disease, meaning there are no mandates for providers to report the number of lupus patients they diagnose to government agencies.

SLIDE 5

Common lupus symptoms include joint pain or arthritis, a characteristic butterfly rash across the nose and cheeks, mouth ulcers, sun sensitivity, and extreme fatigue.

Lupus Symptoms

Symptoms of lupus include, but is not limited to:

Arthritis (joint pain) | Butterfly rash | Mouth ulcers | Sun sensitivity | Fatigue

(Centers for Disease Control, 2017)

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Lupus symptoms vary widely and range from mild to severe. Typically, patients exhibit the common symptoms, as previously listed, but they may also experience serious, life-threatening symptoms like chronic inflammation and damage to the kidneys, heart, lungs, eyes, and/or brain.

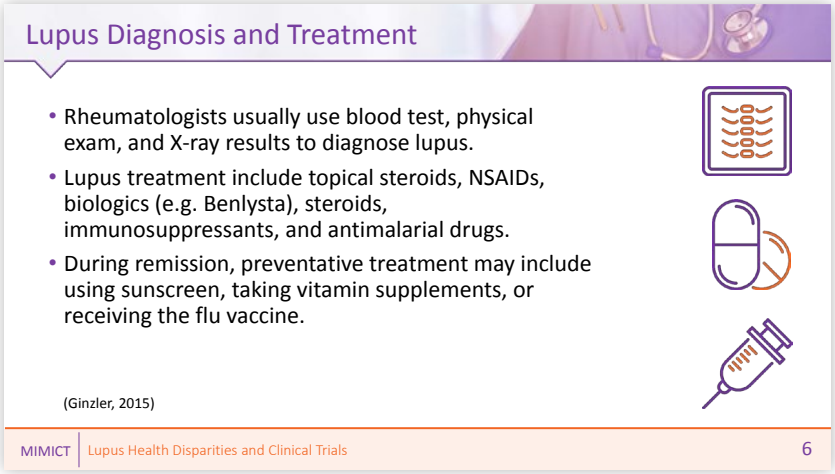
Continued on next page

Continued from previous page

SLIDE 6

Lupus diagnosis and treatment is usually handled by a rheumatologist, who specializes in treating autoimmune disorders like lupus and rheumatoid arthritis.

Patients with suspected lupus may be referred by another physician to a rheumatologist. Patients often seen multiple providers prior to referral to a rheumatologist for diagnosis because lupus can be difficult to diagnose.



There is no test or set of exam findings definitive for lupus. Rheumatologists use several methods, including blood tests, physical exams, and x-ray results, to help diagnose lupus.

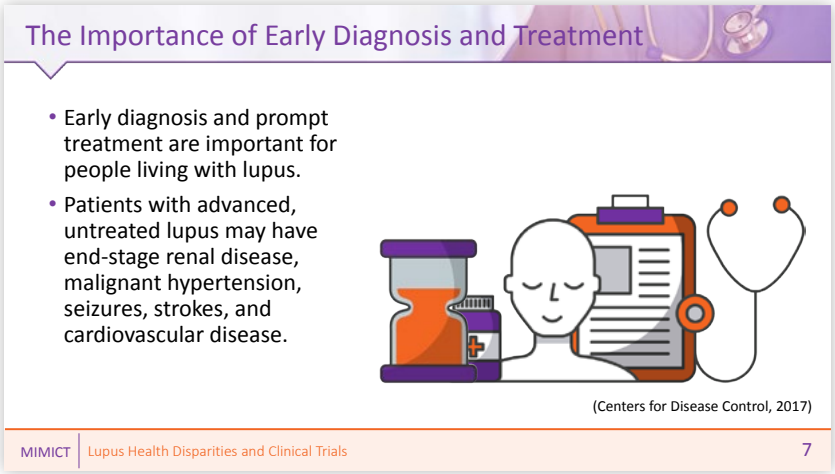
Lupus treatments during active lupus flares may involve the use of steroids (topical/oral), antimalarials, immunosuppressants, immunomodulators.

During remission, patients continue to use their lupus medications in addition to preventative treatments like taking using sunscreen or receiving the flu vaccine to prevent new infections. (Ginzler, 2015)

SLIDE 7

Early diagnosis and prompt treatment are important for people living with lupus.

While there is currently no cure for lupus, early diagnosis and proper treatment helps reduce lupus morbidity and mortality, allowing patients diagnosed with lupus to reduce the physical, mental, and social effects of the disease; decrease possible medical complications; and decrease their risk of death.



Lupus awareness initiatives encourage patients to notice early signs and quickly discuss symptoms with their providers to determine if they have lupus.

Increased awareness leads to earlier diagnosis, reduces the symptoms related to lupus time to treatment, and better health outcomes.

Delayed diagnosis and less effective treatment can contribute to serious, life-threatening organ damage. Patients with advanced, untreated lupus are at higher risk of end-stage renal disease, malignant hypertension, seizures, strokes, and cardiovascular disease.

Continued on next page

Continued from previous page

SLIDE 8

Lupus health disparities are substantial.

Lupus health disparities are defined as the disproportionate burden of lupus and its negative health outcomes experienced by different groups of people, primarily women and racial/ethnic minorities.

Lupus Health Disparities Defined

- Lupus health disparities are the disproportionate burden of lupus and its negative health outcomes experienced by different groups of people, primarily women and racial/ethnic minorities.

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SLIDE 9

Lupus affects men and women, but women have higher incidence and prevalence of lupus than men (CDC, 2017).

In fact, over 90 percent of people diagnosed with lupus are women, with peak occurrence between age 15 and 44 (CDC, 2017). Because these are prime years for education, career advancement, and childbearing, the impact of lupus on women can be severe.

Lupus Health Disparities by Gender

(Centers for Disease Control, 2017; Baker and Pope, 2009; Chakravarty et al., 2007; Pons-Estel, 2010; Gonzalez et al., 2013)

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Gender health disparities also intersect with race.

Recent studies indicate that lupus affects 1 in 406 young African American women (Chakravarty et al., 2007). The lupus mortality rate among African American women is three times higher than non-Hispanic White women (Pons-Estel, 2010; Gonzalez et al., 2013).

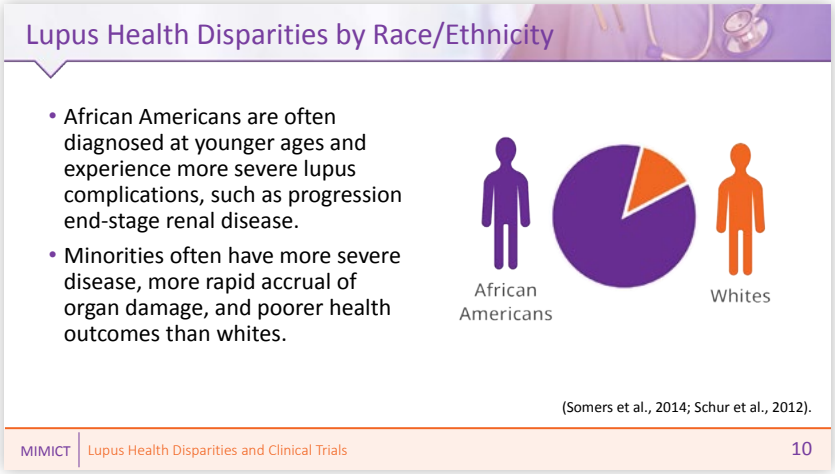
African American women also have increased disease symptom severity and experience more lupus-related complications compared to non-Hispanic white women. Such disease complications have broad personal and societal impact, including high rates of work disability and unemployment (Baker and Pope, 2009).

Continued on next page

Continued from previous page

SLIDE 10

African Americans are also more likely to experience longer time to diagnosis than non-Hispanic whites for numerous reasons, including lack of access to healthcare, discrimination, and a perceived lack of benefit being screened for lupus (e.g. fatalistic health beliefs) can delay disease screening, testing, and diagnosis.



Minorities experience lupus at higher rates than whites. Among all minority groups affected, African Americans experience the highest lupus incidence, facing more than three times the risk of developing lupus than non-Hispanic whites.

As noted previously, this disparity persists across gender with African American men and women experiencing higher rates of lupus than non-Hispanic white men and women.

African Americans also tend to have more severe organ damage and advanced negative lupus health outcomes such as kidney failure. Organ damage may relate indirectly to socioeconomic factors.

For example, African Americans living with lupus who have low socioeconomic status may be at an especially increased risk because low socioeconomic status limits access to affordable health care, limits access to rheumatologists and other specialists, and is tied to low insurance coverage rates. This relates, in turn, to increased disease severity, greater organ damage, and higher mortality rates.

(Lim et al., 2014; Somers et al., 2014; Schur et al., 2012).

SLIDE 11

Clinical trials systematically explore new and better treatments for diseases. Clinical trial studies are important to the lupus medical community because they provide data on the effectiveness of new treatments for patients living with lupus.

A diverse pool of research participants in clinical trials provides stronger evidence about the generalizability of new treatments. These data are valuable for addressing health disparities.

While minorities, especially African Americans, are most affected by lupus, they are sorely underrepresented in clinical trial research. Despite the fact that there are approximately 100,000 clinical trials operating in the U.S. at any given time, minority participation in these trials falls well short of a representative proportion of the population. African Americans represent approximately 12 percent of the population, but only 5 percent of clinical trial participants.

Continued on next page

(The Society for Women's Health Research, 2011; Fisher and Kalbaugh, 2011; Clinical trials.gov, 2017).

Continued from previous page

SLIDE 12

Despite the fact that there are approximately 100,000 clinical trials operating in the U.S. at any given time (Clinicaltrials.gov, 2017), minority participation in these trials falls well short of a representative proportion of the population.

Historically, clinical trial studies tend include homogeneous pools of mostly white participants, with little diversity across race, ethnicity, and socioeconomic status. The data underscore this reality. African Americans represent approximately 12 percent of the U.S. population, but only 5 percent of clinical trial participants (The Society for Women's Health Research, 2011).

What is more, close examination of clinical trial participation suggests an inequitable distribution of benefits and risks across different clinical trial phases.

There are three main phases of clinical research: Phase I studies are safety studies in which healthy patients are given the experimental treatment to establish dosage and gather information on adverse effects. Such healthy participants derive no direct health benefits from their participation.

Phase II studies use a small group of participants with the condition in question and are designed to provide preliminary information about the effectiveness of the experimental treatment. Phase III studies use a large group of participants with the condition and can take up to four years to complete.

Low-income and minority participants are overrepresented in Phase I studies involving healthy volunteers, and underrepresented in Phase II and Phase III research studies, which offer the most possible benefit for participants with the condition in question (Fisher and Kalbaugh, 2011).

Phase II and Phase III research have an 80 percent success rate and are believed to offer important and direct health benefits to participants.

Thus, at times, socio-economically disadvantaged participants bear the brunt of the dangers of clinical research while reaping the least direct benefits.

(The Society for Women's Health Research, 2011; Fisher and Kalbaugh, 2011; Clinicaltrials.gov, 2008; Clinicaltrials.gov, 2017)

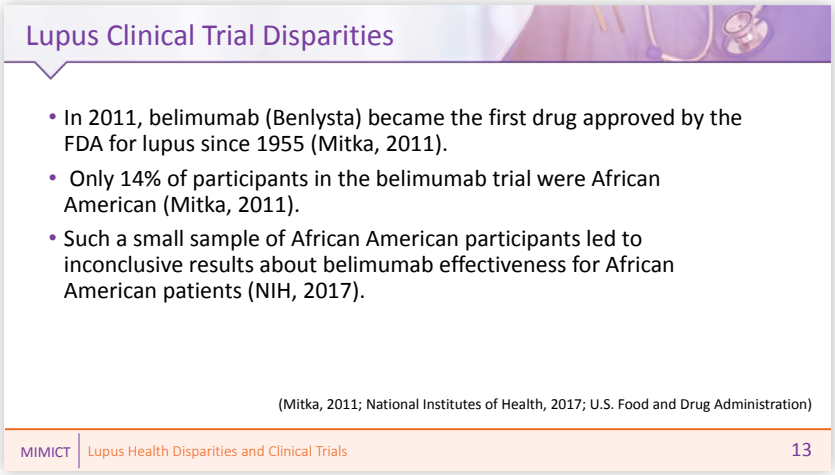
Continued on next page

Continued from previous page

SLIDE 13

In 2011, belimumab (Benlysta) became the first drug approved by the FDA for lupus since 1955 (LFA, 2013). Despite lupus' disproportionate prevalence among African Americans, only 14 percent of the belimumab clinical trials participants were African American.

The lack of racial representation in their clinical trial led to inconclusive results on the effectiveness of belimumab for African Americans.



This led the makers of belimumab, Human Genome Sciences and GlaxoSmithKline, to conduct an additional Phase IV clinical trial specifically with African American patients living with lupus. This clinical trial started in 2013 and should be completed in 2019 (Mitka, 2011; NIH, 2017; FDA, 2011).

U.S. Food and Drug Administration (2011).Drug approval package. Retrieved January 15, 2018, from https://www.accessdata.fda.gov/drugsatfda_docs/nda/2011/125370Orig1s000TOC.cfm

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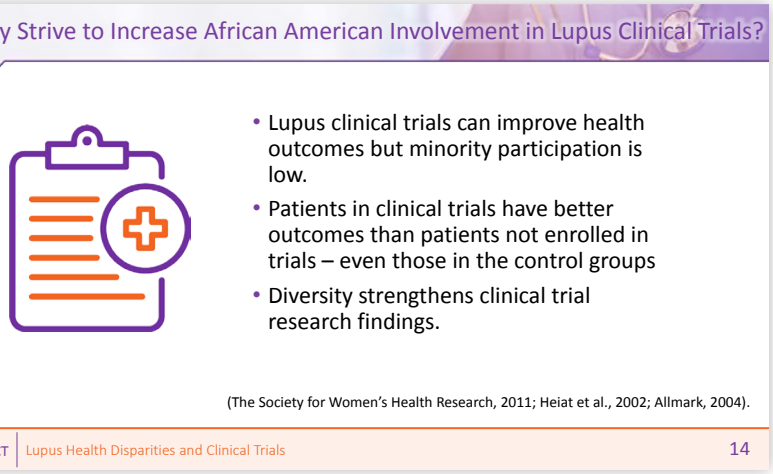
SLIDE 14

Lupus clinical trials can improve health outcomes but African American participation in them is low. Minority participation in lupus clinical trials is essential to reduce lupus health disparities at the individual and systems levels.



At an individual level, a diverse study population strengthens the generalizability of clinical research findings on the efficacy, side effects, and risk of medications, helping patients make better treatment decisions with their provider. Because clinical trials offer a significant amount of patient care, including follow-up care, there is evidence that patients in clinical trials have better health outcomes than patients not enrolled in trials – even those in the control groups (Heiat et al., 2002).

Thus, clinical trials can reduce disparities because they providing high-quality and low-cost health care to minority populations. On a systems level, lack of diversity in randomized study populations reduces opportunities for discovering disparate effects of the treatment based on race or ethnicity (The Society for Women's Health Research, 2011).

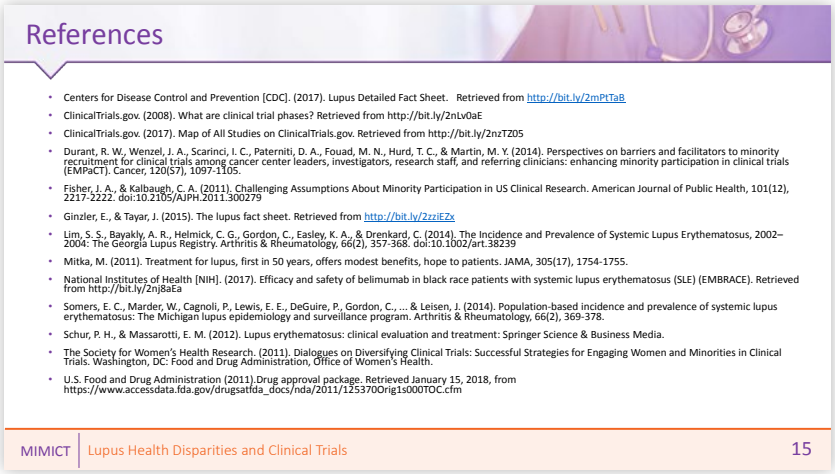
For example, low minority participation can mask important biological differences in drug efficacy and absorption rates. We acknowledge that some researchers posit that there are no true racial and ethnic differences as there are greater genetic differences within groups than between them.

However, even so, a diverse sampling is important to see how a treatment affects a variety of patients, regardless of how patients are classified (Allmark, 2004).

Clinical trials need more participation from African American patients living with lupus. The MIMICT materials will equip providers to refer patients and make a positive contribution to increasing African American involvement in clinical trial research.

SLIDE 15

[References]



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SLIDE X

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SLIDE X

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SLIDE X

Lupus Symptoms

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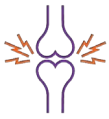

Arthritis (joint pain)

Butterfly rash

Mouth ulcers

Sun sensitivity

Fatigue

(Centers for Disease Control, 2017)

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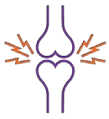

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