

Role of Textils in Effective Management of AIDS

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Abstract

Textiles play an important and multifaceted role in the effective management and social understanding of Acquired Immunodeficiency Syndrome (AIDS). Beyond their conventional applications, textiles contribute significantly to cultural expression, healthcare protection, technological innovation, and socio-economic development related to HIV/AIDS. Symbolic textile projects such as the AIDS Memorial Quilt have served as powerful tools for remembrance, public awareness, and activism, highlighting the human impact of the epidemic. In healthcare environments, medical textiles including gowns, masks, drapes, and antimicrobial fabrics provide essential barrier protection against opportunistic infections and hospital-acquired pathogens, particularly for immunocompromised individuals. Advances in textile technology have also enabled the development of smart textiles and wearable sensors that may assist in remote monitoring and health management for patients living with chronic diseases such as HIV/AIDS. Additionally, the textile industry plays a socio-economic role in communities heavily affected by HIV, providing employment opportunities and implementing workplace policies for prevention and treatment support. This article discusses the diverse roles of textiles in cultural memorialisation, clinical infection control, technological development, and socio-economic support in the context of AIDS management.

Keywords: AIDS, HIV, Medical Textiles, Antimicrobial Fabrics, Infection Control, Smart Textiles, AIDS Memorial Quilt, Healthcare Protection, Textile Industry, Public Health.

Introduction

Textiles play a multifaceted role in the context of AIDS, ranging from being a medium for activism and healing to serving as critical tools for prevention, safety, and supportive care in healthcare settings.

1. Cultural and Symbolic Role: The AIDS Memorial Quilt

Commemoration and Healing: The Names Project AIDS Memorial Quilt is one of the most famous examples, where textile panels sewn by loved ones commemorate those who died of AIDS. It serves as a tool for public education, activism, and collective healing, bringing attention to the human cost of the epidemic, particularly when government action was lacking in the 1980s.

Activism: The quilt subverted public perceptions of people living with AIDS, utilizing the traditional, "warm" medium of quilting to represent a community deemed expendable, transforming it into a powerful, 54-ton, internationally recognized protest art form.

2. Healthcare and Safety: Prevention of Opportunistic Infections

Barrier Protection: Medical textiles (e.g., gowns, masks, drapes, gloves) are essential for protecting both healthcare providers and HIV-positive individuals (who may have weakened immune systems) from secondary, hospital-acquired infections (HAIs).

Antimicrobial Fabrics: Advanced medical textiles, such as those treated with copper oxide, silver, or zinc oxide, are used to reduce microbial colonization on hospital surfaces and in patient clothing, reducing the risk of bacterial, fungal, and viral infections.

Wound Management: Specialized dressings and bandages designed for immunocompromised individuals help manage chronic wounds or opportunistic infections, serving as a barrier to pathogens.

3. Economic and Social Role: The Textile Industry and HIV High-Risk Workplaces: In certain regions, such as Lesotho in Sub-Saharan Africa, the textile and apparel industry is a major employer, with studies showing a significantly high prevalence of HIV among textile workers (up to 34%–43%).

Impact on Productivity: HIV/AIDS has a significant negative impact on the business, leading to increased absenteeism, higher training costs for replacement workers, and reduced productivity.

Workplace Policies: The textile industry has developed targeted policies for the prevention and management of HIV in the workplace, including education, condom distribution, and access to treatment.

4. Technological Role: Smart Textiles

Remote Monitoring: Future applications of smart textiles include wearable sensors in clothing that can monitor vital signs, allowing for remote, real-time tracking of patients with chronic diseases, including those with HIV/AIDS, to manage their health outside traditional hospital settings.

5. Community Support and Livelihoods

Craft and Empowerment: In regions heavily impacted by HIV, such as South Africa, community craft projects (e.g., beaded dolls or clothing) have been used to provide income for people living with HIV/AIDS, empowering them and improving their livelihoods.

Textiles play a multifaceted role in the context of AIDS, spanning from memorialisation and cultural healing to infection control in clinical settings and socio-economic impacts within the textile industry itself.

1. Memorialisation and Healing

The AIDS Memorial Quilt: Conceived in 1985 by activist Cleve Jones, this is the world's largest community folk art project. It uses patchwork fabric panels to humanise the scale of the

epidemic, offering a "warm and comforting" symbol of domesticity to counter the stigma and isolation faced by those affected.

Cultural Significance: For many communities, such as Native Americans, these quilts act as vehicles for healing practices, materialising connections between people and their histories.

Awareness and Expression: Projects like the Siyazama Project in South Africa use beaded crafts to raise awareness, enable self-expression, and provide livelihoods for those impacted by the virus.

2. Clinical Infection Control

Protective Barrier Fabrics: Specialized textiles such as surgical gowns, masks, and drapes are engineered to protect both patients and healthcare workers from blood-borne pathogens, including HIV.

Antiviral Functionalization: Researchers are developing bio-active fibers and antiviral finishes (e.g., using silver or copper nanoparticles) designed to resist and inactivate viruses, which is critical for immunocompromised individuals susceptible to opportunistic infections.

Smart Textiles: Advanced "wearable electronics" can monitor vital signs in real-time, aiding in the management of chronic conditions and secondary health complications.

3. Socio-Economic Impact

Workplace Prevalence: In some regions, the textile and apparel industry is a major employer where HIV/AIDS prevalence is high. For instance, in Lesotho, it is estimated that nearly 34%–43.2% of textile factory workers are living with HIV.

Industry Response Policies: Organisations like the Southern AIDS Coalition and various national labour councils have established workplace policies to combat discrimination, provide education, and ensure access to treatment for infected employees.