# The Effect of Health Care Waste Management on Infection Control in the Obstetrics and Gynecology Department at Al-Gadarif Teaching Hospital, Al-Gadarif State, Sudan (2025)

Knowledge, attitudes and practices among healthcare workers in the Obstetrics and Gynecology Department, Al-Gadarif Teaching Hospital, Sudan

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**150**
healthcare workers

**Jun–Aug 2025**
cross-sectional study

**44%**
always segregated at source

## Introduction

Inadequate healthcare waste management (HCWM) can expose patients, staff and visitors to avoidable infection risks. Safe segregation at the point of generation is a central infection-control measure.

## Objective

To assess healthcare workers' knowledge, attitudes and practices regarding HCWM and identify the knowledge–practice gap affecting infection control.

## Methods and materials

A descriptive cross-sectional study was conducted at Al-Gadarif Teaching Hospital, Sudan. A structured questionnaire was completed by 150 nurses, doctors, laboratory technologists and supportive staff. Data were summarized descriptively and examined using Chi-square tests with a 95% confidence level.

## Key message

**Knowledge and positive attitudes are not enough.**

Consistent source segregation, practical supervision, infrastructure and PPE are needed to convert awareness into safer infection-control practice.

## Results

### Knowledge and training




### Attitudes




### Practice gap




## Discussion

The study shows a pronounced gap between theoretical knowledge and routine practice. Although 98% reported training, training was not consistently practical or reinforced. Inconsistent PPE use and reported needle-stick injuries further indicate weaknesses in implementation. Older and more experienced clinical staff generally demonstrated better KAP, while supportive staff require targeted support.

## Conclusions

HCWM is a critical component of infection control in obstetrics and gynecology. The hospital has a strong foundation of awareness and favorable attitudes, but safe practice requires stronger systems, monitoring and hands-on education.

## Action priorities

**1 · Practical refreshers**
Demonstration-based training for all staff every six months, with special emphasis on supportive staff.

**2 · Make safe practice possible**
Provide standardized color-coded containers, appropriate PPE and reliable waste-collection systems.

**3 · Supervise and improve**
Conduct routine audits, feedback and incident reporting; enforce segregation protocols at source.

**4 · Protect the care environment**
Align hospital policy with current WHO guidance and use monitoring results to strengthen infection control.

Source: Ismail L.M.A.N. (2025). The Effect of Health Care Waste Management on Infection Control in the Obstetrics and Gynecology Department at Al-Gadarif Teaching Hospital, Al-Gadarif State, Sudan. Master's thesis.

## Take-home message

**Know the standard**
Awareness is high.

**Make it routine**
Segregate at the point of generation.

**Support the worker**
Train, equip, supervise and learn from incidents.