

Warm Hug



Description

Philosophy

Design

Hypothermia

Benefits



What is hypothermia ?

- Hypothermia is reduced body temperature that happens when a body dissipates more heat than it absorbs and generates. In humans, it is defined as a body core temperature below 35.0 °C (95.0 °F).
- It is a serious health challenge in Africa and Asia.

Project overview

Work packages

Repository



Design planning



1 Medical need and product specification



2 Conceptual design



Physical principles



Voting



Concept description



Structured information on the device



3 Design and prototyping



4 Evaluation

Concept description

Warm Hug is intended to combat hypothermia using can raise the temperature gradually to reach 38 degrees thanks to the Foam Mattress that it has.

KMC involves placing the baby in the mother's bare chest that of an incubator and gives the baby safety and warmth.

Pediatric studies show that KMC also promotes psychological infections.

The benefits of KMC supports along with the action of babies as well as in older babies. Being a valid solution

Health technology specifications

Dimensions (mm ³)	400 mm x 300 mm x 600 mm
Weight (kg)	1 kg
Does it require the use of consumables? For example, disposable batteries, disposable electrodes, etc.	Yes. Battery (9V)
Estimated life time	2 Years
Estimated shelf life	40 Years

Project overview

Work packages

Repository

Assignments



Design planning

1

Medical need and
product specification

2

Conceptual design



Physical principles



Voting



Concept description



Structured information

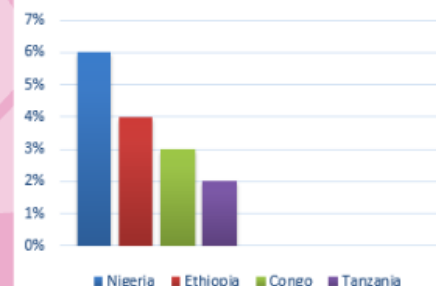
User and environment

Who is the intended user?	Midwife
Is training required in addition to the expected skill level of the intended user?	No
Is any maintenance or calibration required by the user at the time of use?	No
Where will the technology be used?	rural settings, outdoors, indoors, at home, primary level (health post, health center)

Why do we need Warm Hug?

- Over 1.1 million neonatal deaths comprising 28% of the global burden occur in sub-Saharan Africa.
- It is estimated that 17 million newborns develop hypothermia annually in the developing countries.

neonatal deaths in some African countries in 2013



Philosophy of the device

- Fighting hypothermia
- The Kangaroo Mother Care
- Heat insulating
- Waterproof device
- Breathable



Warm Hug

Assignments

Members

Medical tags

Clinical need: Prevention of pathology or disease

Clinical area: Pediatrics

Technology: Other supporting equipment

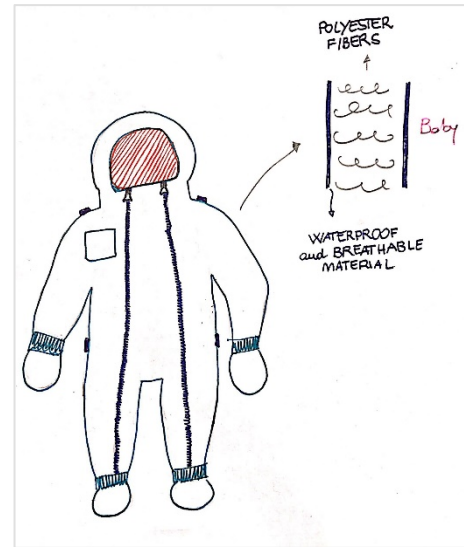
Project keywords: Premature babies, newborn, hypothermia, temperature monitoring system, Phase Change Material

Device classification: IIb

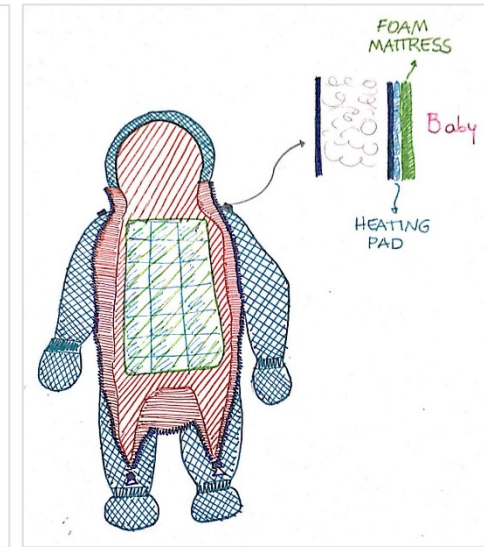
Design

- Gel as a heating element (hydrated sodium acetate)
- A temperature monitoring system
- Insulation by polyester fibers
- Waterproof and breathable biocompatible textiles as GoreTex or NanoPro

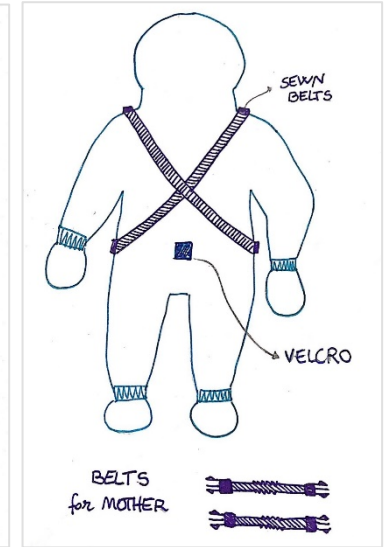
Front closed



Front opened



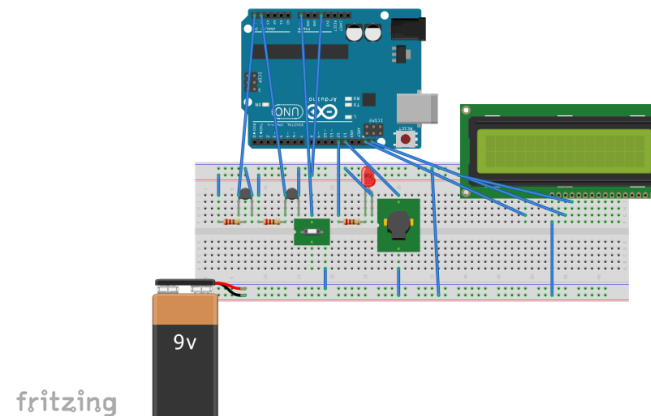
Back



Work packages

Repository

Prototypes and functional trials

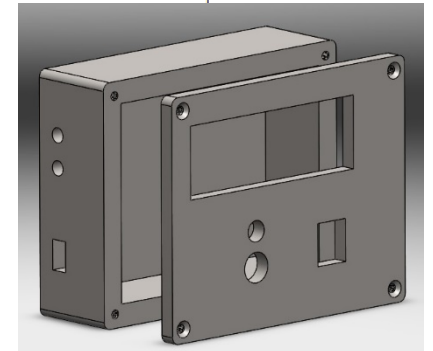


Work packages

Repository

Purposely designed parts

Box for the electrical parts.



The existing solutions



Benefits of the device

- Reduce the number of deaths
- The device is about 50 \$
- Applicable
- Biocompatible materials
- Free movability for the baby
- It supports the kangaroo mother method
- Easy to clean
- No disease transfer