Distribution of household disinfection kits during the 2014-2015 Ebola epidemic in Monrovia, Liberia: the MSF experience

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Unprecedented Ebola outbreak in Liberia
MSF intervention in Liberia

The six pillars of Ebola outbreak management include:

- Patient management
- Environmental health
- Health promotion
- Surveillance – contact tracing
- Support to health structures
- Coordination
Overwhelmed isolation capacity

Isolation capacity at Elwa3 ETC, Monrovia

NEED FOR UNCONVENTIONAL MEASURES
Stopgap measure:
Distribution of Ebola household disinfection kits

- Disinfectant (chlorine powder)
- Personal protection (face masks, gloves, gowns)
- Other (soap, 2 buckets, tap, handsprayer, plastic bags, goggles)

Kits only to be used during care of sick persons while waiting for the ambulance, and during - if unavoidable - the handling of dead bodies while waiting for collection
Kits distribution – to whom
1- High risk population
Kit distribution – to whom
2 - Health workers
Kit distribution – to whom

3 - Mass distribution (general population)
Preliminary planning with community leaders
- Estimate necessary kits/administrative area (1 kit/household)
- Identify appropriate sites
- Distribution of “tokens” to community leaders
- HP sessions **before and after** distribution
  - Info leaflet in kit
  - Live demonstrations
  - Film session
Kit distribution – how

- Experienced team - previous distribution experience
- Early morning distributions
- Female recipients only
- Disturbance => abandon
- Mobile approach – from truck
- No touch policy
- Maximum 2 hours/site
Study description

Objective: to describe,
- Distribution process of the kits, limitations and lessons learnt
- Reported use of the kits by recipients

Methods:
Phone follow-up one week after distribution: 1388 (2%) respondents
- All population at risk
- All health workers
- 2% of mass distribution
Results

Kits distribution (total- 65,609 kits)
Households had sick and/or dead person(s) after receiving kits

**Attack rate estimated at 32% [95% confidence interval (CI) 26–38%] without kit (Brainard et.al., 2015).**
Households reported use of kits items

Experienced sickness/death

56 (93%)

Did not experience sickness/death

583 (44%)
Limitations of the study

- Phone follow-up
  • Collecting phone numbers and reaching responders
  • Response bias

- The impact of the kits on the Ebola transmission can not be assessed by this study, however,

  “Protective kits might reduce transmission under scenarios in which the capacity of EVD treatment centres is exceeded and might have an efficacy ranging from 10% to 50% “ (J.A. Leward et.al., 2014, The Lancet Infect Dis)
Lessons learned

- A significant delay to kick off the distribution: HR diverted - decision-making
- Fears of additional transmission and disruptions were exaggerated
- Waste management was less a problem than expected
- Kits were relevant: exposed recipients used the kit correctly
- Despite HP message, half of non exposed recipients used the kits
- Consider kit distribution in future outbreaks in urban context:
  - “Chlorine Only Kit”: depending on access to chlorine (physical/financial)
  - “Full Kit”: overstretched isolation capacity and ambulance services
Conclusion

In the words of MSF distribution team “it was an imperfect solution for a difficult situation”. At the peak of such an unprecedented outbreak, the distribution of household disinfection kits was feasible and kits were appropriately used by the majority of beneficiaries. In similar unique circumstances in the future, the intervention could be recommended
Thank you

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