

# Flooding: An Investigation into Public Awareness and Associated Risks



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# Definition

- Flooding:

*“ The overflow or accumulation of an expanse of water that submerges land that is normally dry through the overflowing of a body of water.”*



# Types of Flooding

- Coastal floods,
- Fluvial floods,
- Urban floods and,
- Water Ponding



# Importance of Flood Awareness

- Public awareness of flooding risks is fundamental to the successful prevention of hazards related with flood waters.
- The need for clear, consistent and actionable information about potential and impending flooding disaster situations is imperative to protecting public safety and welfare

# Risks Associated

- Contamination of Water Supplies
- Contamination of Food
- Electrocution
- Chemical Hazards
- Pest Infestation
- Damp/Mould
- Carbon Monoxide Poisoning
- Water Borne Bacterial Hazards (continued)

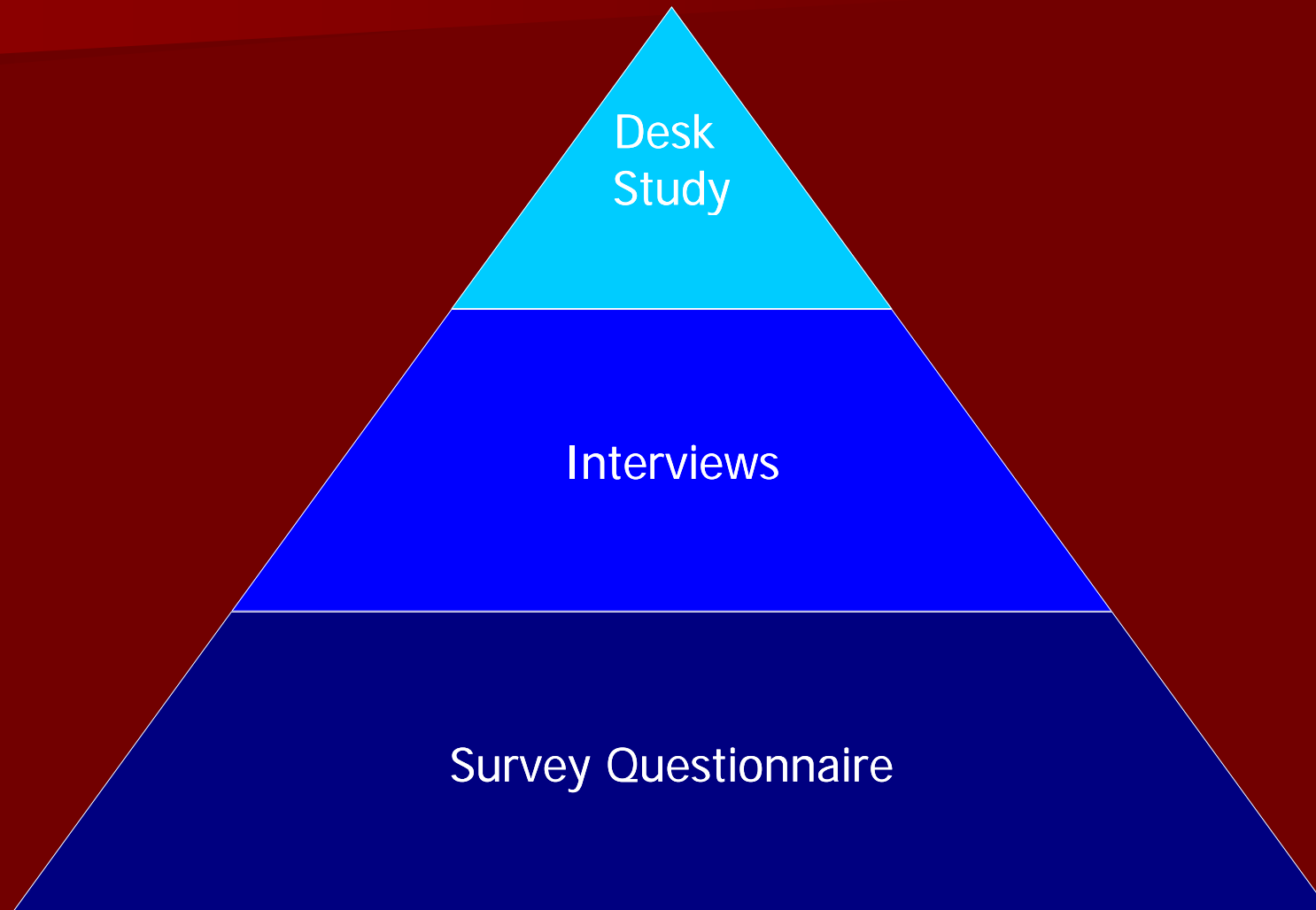
# Water Borne Bacterial Hazards

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- Campylobacter
  - E.Coli
  - Hepatitis A
  - Norovirus
  - Shigella
  - Cryptosporidium
  - Giardia
  - Legionella
  - Salmonella
  - Cholera

# Objectives of Study

- Establish public health issues
- Investigate the mitigation methods
- Determine the knowledge and awareness of risks associated with flooding
- Establish the roles and responsibilities of the relevant authorities and associated bodies

# Achievement of Objectives



# Survey Questionnaire

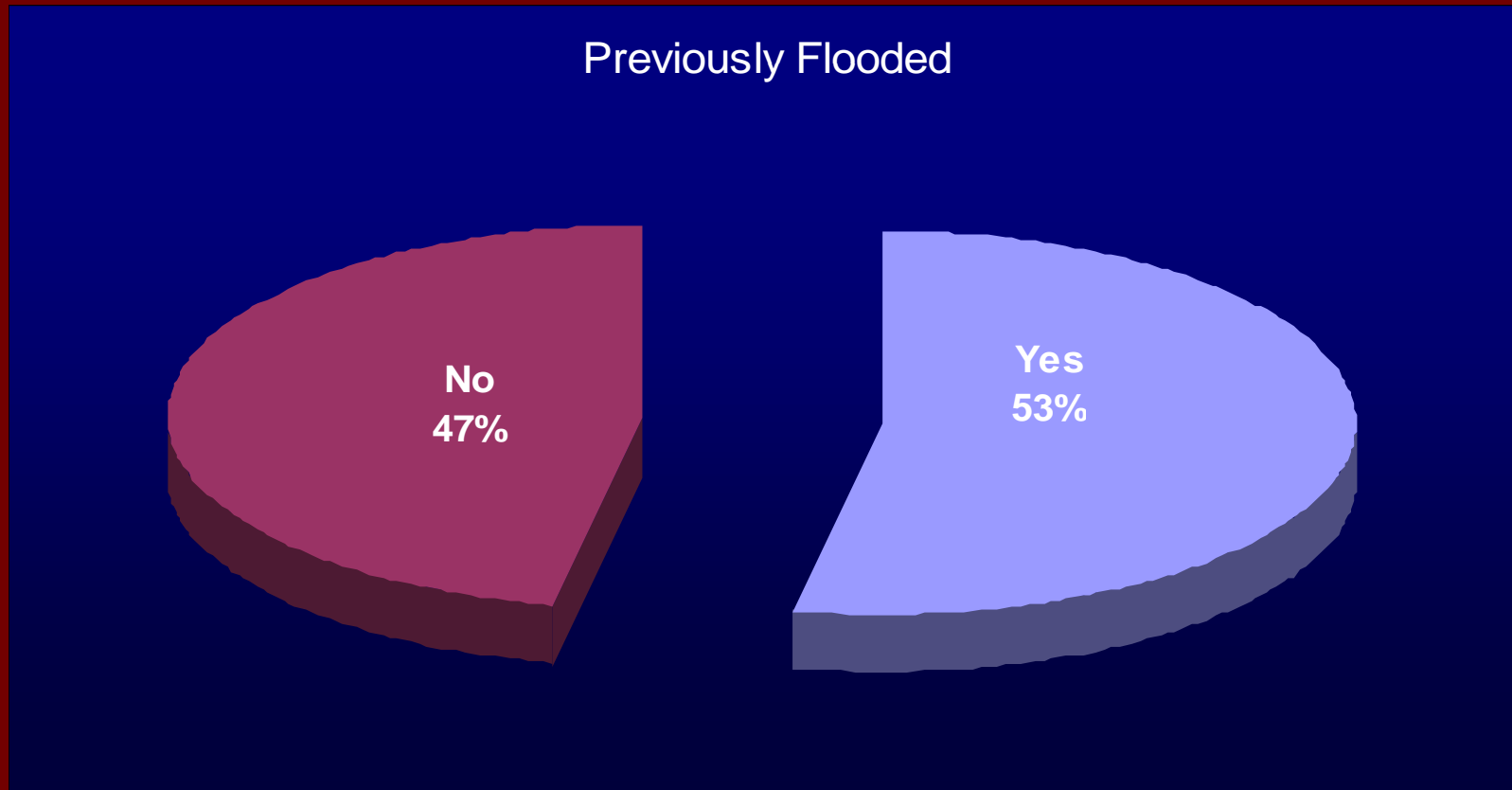
## ■ Survey Design

- Determine awareness of risks
- Disease awareness
- Awareness of adequate after flood cleaning
- Awareness of safety during a flood disaster

## ■ Population Area

# Results

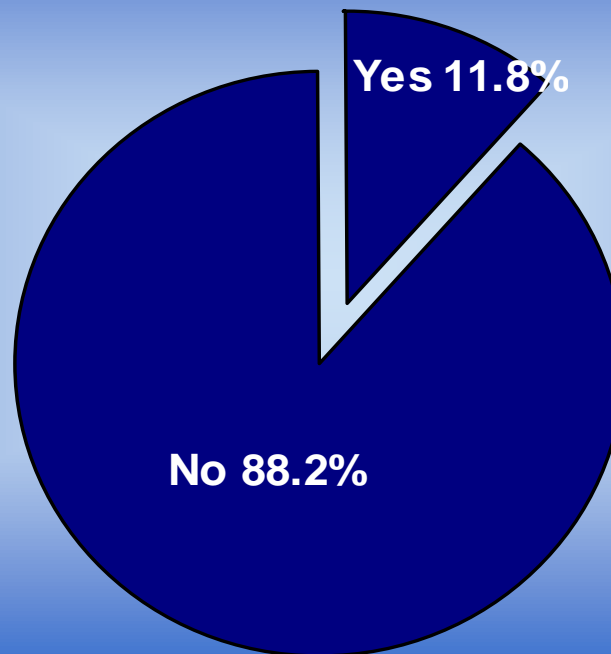
## Survey Population-Flood History



# Results

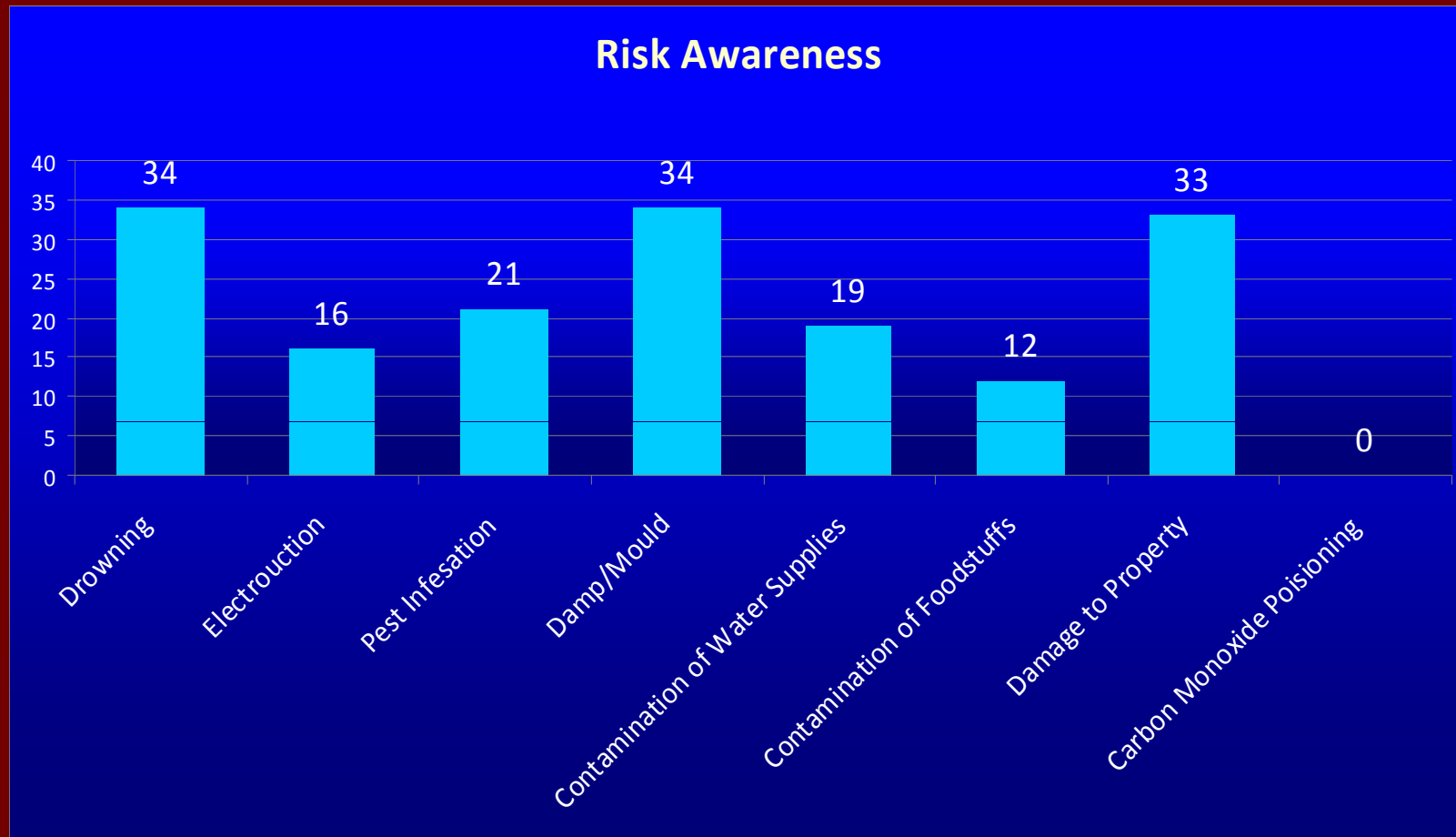
## ■ Knowledge of Contact Time

Knowledge of adequate Contact time



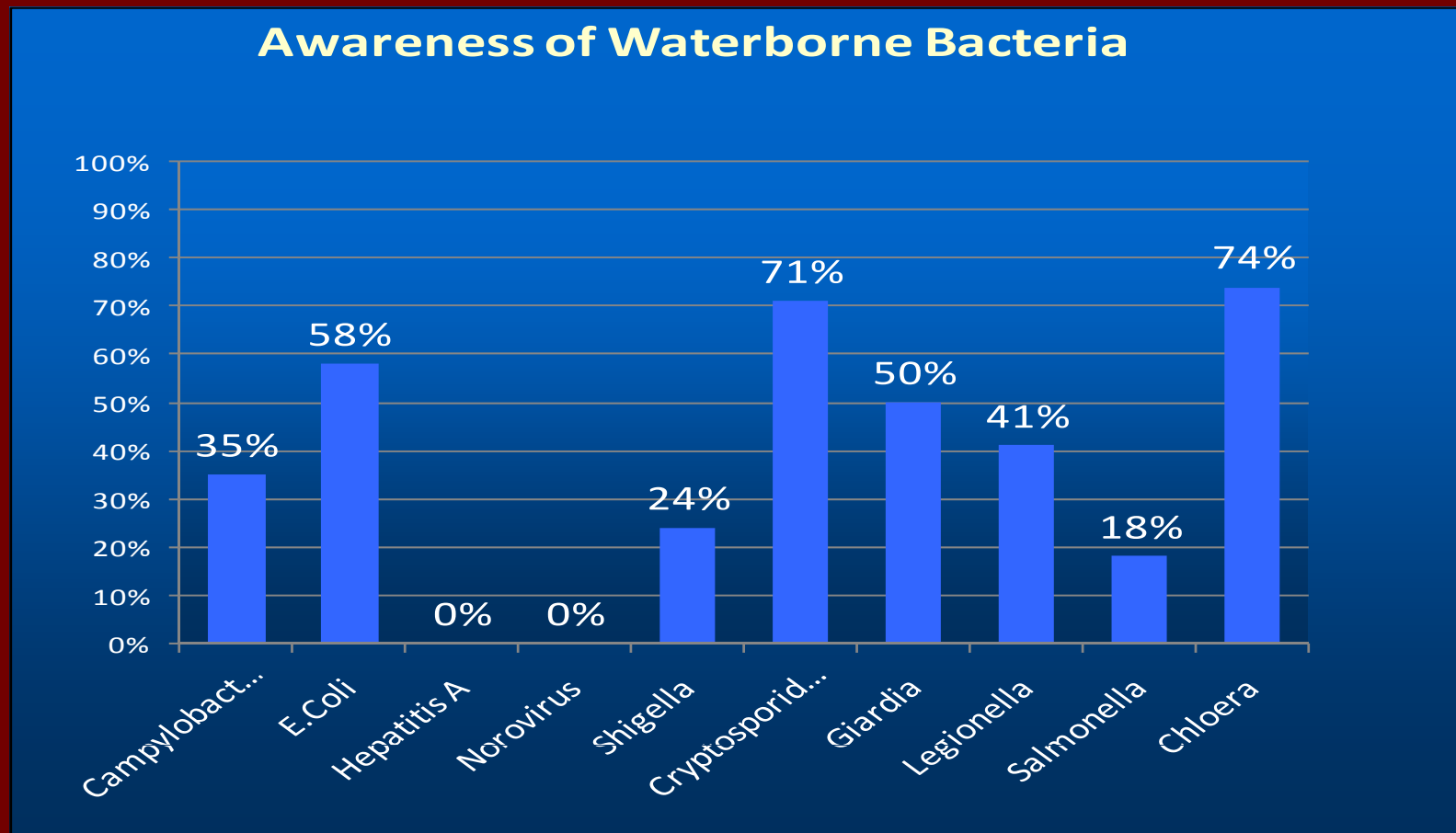
# Results

## ■ Awareness of Risks



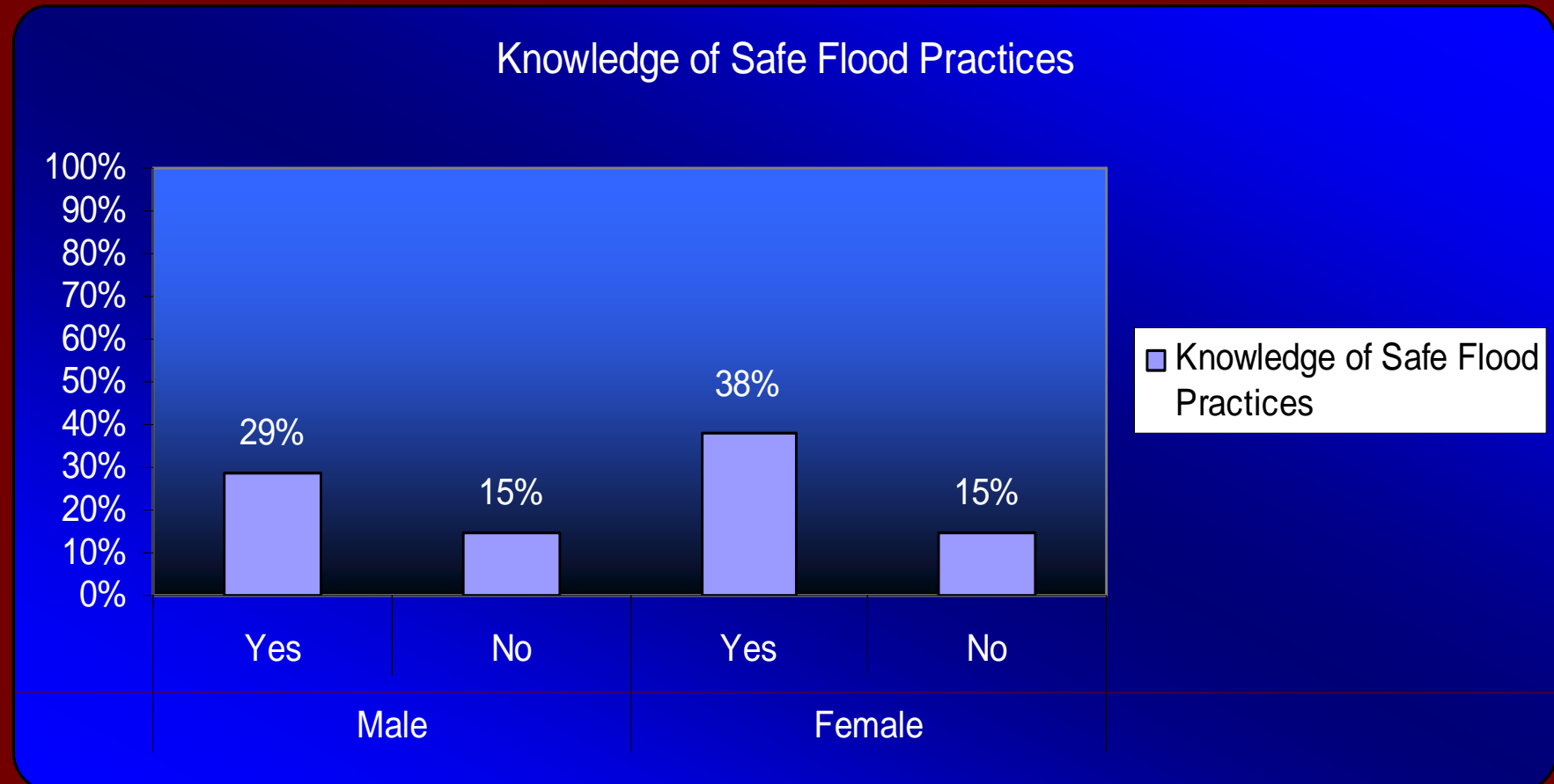
# Results

## ■ Awareness of Water Borne Bacteria



# Results

## ■ Knowledge of Safe Flood Practices



# Conclusion

## ■ Objectives achieved

– Establish public health issues



– Determine the knowledge and awareness of risks associated with flooding



– Establish the roles and responsibilities of the relevant authorities and associated bodies



# Conclusion

- Determine Safety Awareness
- Determine knowledge of procedures and practices
- Promote clear and concise information for participants in survey (Leaflet Distributed)

### 3. DRY OUT

- Open all doors and windows to ventilate your home.
- Ensure all air bricks and vents are unblocked.
- Allow all cleaned surfaces to dry completely as germs and mould thrive in wet conditions.
- Once your heating has been certified safe to use, it can be turned on to help dry out the house. (Keep the temperature around 20 to 22°C.)

**Remember if you feel unwell in the next few days, especially with a stomach upset, see your doctor immediately and tell them that you have been cleaning up floodwater.**

For further information contact your local Environmental Health Officer. Log on to [www.hse.ie](http://www.hse.ie) for details.



HSE  
ENVIRONMENTAL  
HEALTH



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**FLOODED  
HOMES**

The floodwater that entered your property may cause illness if you do not take a few simple precautions.

Wash your hands with soap and clean water\* before eating and smoking, after toilet use, after participating in flood cleanup activities and after handling articles contaminated with flood water.



(\* If as a result of flooding you are not sure if water is safe then boil or disinfect water as a precaution.)

- Keep any cuts or sores clean and prevent them from being exposed to flood water. Wear waterproof plasters.
- Wear suitable protective clothing; waterproof boots, plastic or rubber gloves and other protective clothing needed to avoid contact with floodwater.
- Watch out for broken glass, nails or sharp objects. Wounds that are associated with a flood should be evaluated for risk by a physician.
- Do not allow children to play in floodwater areas (this includes affected grassed or paved areas) and wash childrens' hands frequently. Wash and disinfect all toys that may have come in contact with floodwater.

## BEFORE RE-OCCUPYING YOUR HOME THESE THREE STEPS SHOULD BEEN TAKEN:

### 1. REMOVE MUD

- Shovel out as much mud as possible, but any remaining mud will dry up and turn into dust. If possible vacuum this dust instead of brushing.



### 2. CLEAN AND DISINFECT

- Scrub surfaces with hot soapy water and detergent.
- Wipe over surfaces with a weak solution of bleach (5ml to 1 litre of water or one cup of bleach to one bucket of water). Allow a contact time of about 30 minutes after applying the bleach solution.
- Items such as soft furnishings, clothes, curtains that have come into contact with floodwater should be place in refuse sacks and disposed of.



- Consider discarding all water-damaged materials, including furniture.
- All food preparation surfaces, equipment, crockery, cutlery, glassware, etc. must be cleaned thoroughly and disinfected. (Wash with hot soapy water and detergent and finally disinfect with a solution of bleach – 5ml bleach to 1 litre of water. Alternatively use 'Milton', 'Dettol' etc. and follow the manufacturers instructions.)
- Any food and associated packaging that have come into contact with floodwater must be disposed of.
- Thoroughly clean and disinfect any taps that may have been in contact with floodwater with dilute bleach and then run them for 5 to 10 minutes to flush the water through.

# Recommendations

- Training courses provided to people living in affected areas.
  - Leaflets Vs Practical Training
  - Advertisements
  - Safe Procedures and practices
  - Water Safety
  - Drinking Water Safety
- Point of Contact needed
  - Email address, Phone numbers ect...

# Recommendations Continued

- Allow students to promote and raise awareness of risks
  - Within the Community Based Learning Module
- Early warning system to be incorporated in areas prone to flooding
  - Eg Canada & USA
- Launch of flooding Website in 2005
  - [www.flooding.ie](http://www.flooding.ie)



Thank You