ENVIRONMENTAL HEALTH OFFICER’S KNOWLEDGE OF SENSORY DEPRIVATION TANKS IN BC

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Outline

• Introduction

• Literature Review

• Methods

• Results

• Discussion

• Conclusion
What is a Floatation Tank?
Importance to the Public Health Field

EHOs Inspect PSEs

- Recently resurfaced into the PSE field

- Sanitation and disinfection of the tank
  - Prevent pathogen growth and spread

- Lack of legislation in this industry
  - Guidelines are used in place
Recreational Water Disinfection

- Chlorination and bromination for primary disinfection with filtration
- Ozone and UV can be supplemental forms of disinfection
- Hydrogen peroxide has been suggested by the community
Literature Review

Other Countries Legislation and Guidelines

• Australia has an extensive guideline for PSEs
  • Floatation tanks only has a small paragraph

• USA leave it up to the states to provide guidelines
  • National Sanitation Foundation
    • Based on product manufacturers and guidelines for recreational waters/pools
  • Floatation Tank Association
    • Non-governmental
    • Standards with no chemical disinfection
Literature Review

BC Guidelines

- Released January 2016

- Broken down into
  - Facility – disinfection, filtration, construction
  - Operations – operation and maintenance, general sanitation
Purpose

• Examine EHO’s knowledge about sensory deprivation tanks
  • Length of time EHOs have been in the field
  • Age
  • Geographic location
Methods

• A survey was developed in Google Forms and Survey Monkey

• Disseminated to EHOs through e-mail with help from Gordon Moseley

• Demographic questions & 15 testing questions

• Results were then analyzed in Excel & SAS
Results

• 33 Participants

• Average score: $7.6/14$ (54%)

• Lowest score: $4/14$ (29%) – achieved twice

• Highest score: $12/14$ (86%)
WHAT DO FLOAT SPAS ADD TO THE WATER OF SENSORY DEPRIVATION TANKS TO ALLOW PEOPLE TO FLOAT?

- Sodium Chloride: 41%
- Magnesium sulphate: 24%
- Potassium chloride: 6%
- Do not know: 29%
WHICH REGULATIONS ARE FLOATATION TANKS REGULATED UNDER?

- Regulated Activities: 47%
- Pool Reg: 29%
- Both: 15%
- Do not know: 9%
Acceptable primary disinfectants for the tank water? Select all that apply

- Bromine
- Hydrogen peroxide
- UV
- Chlorine
## Results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Participants</th>
<th>Score (out of 14)</th>
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<tbody>
<tr>
<td>Years in the Field</td>
<td>Less than 5: 12</td>
<td>7.0</td>
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<td></td>
<td>More than 5: 21</td>
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<tr>
<td>Age - Overall</td>
<td>20-30: 11</td>
<td>7.2</td>
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<td></td>
<td>31-40: 9</td>
<td>7.6</td>
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<tr>
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<td>41-50: 7</td>
<td>7.7</td>
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<td></td>
<td>51-60: 3</td>
<td>8.3</td>
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<td>61+: 3</td>
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<tr>
<td>Age - Grouped</td>
<td>20-40: 20</td>
<td>7.4</td>
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<td></td>
<td>41+: 13</td>
<td>7.9</td>
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<tr>
<td>Geographic Location</td>
<td>Urban: 16</td>
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<td></td>
<td>Semi-urban: 8</td>
<td>7.4</td>
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<tr>
<td></td>
<td>Rural: 8</td>
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</table>
Results

Knowledge Scores by All Age Categories
<table>
<thead>
<tr>
<th>Comparison</th>
<th>Test</th>
<th>p-value</th>
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<tbody>
<tr>
<td>Number of years worked</td>
<td>t-test</td>
<td>0.1879</td>
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<tr>
<td>Condensed Ages</td>
<td>t-test</td>
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<td>All Ages</td>
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<td>0.9416</td>
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<tr>
<td>Geographic Location</td>
<td>ANOVA</td>
<td>0.5071</td>
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</tbody>
</table>
Discussion of Results

- All three null hypotheses were not rejected (p-value > 0.05)

- Overall weak knowledge in EHOs across groups
  - Average score was 54%

- Small sample size
Recommendations

- More time
  - Develop a more comprehensive survey
  - Response collection
  - Pilot test survey longer

- Have access to EHOs e-mail

- Larger survey
Limitations

- E-mailed surveys had to go through another person
  - Unable to send reminder e-mails

- Insufficient time
Future Research

- Sensory deprivation tank water analysis
  - Microorganism growth
  - Disinfection effectiveness

- Replication of this study
  - More comprehensive survey
  - Reflective of new guidelines

- Opinion survey between EHOs and float spa owners/operators
Conclusion

- Overall weak knowledge regarding health and safety of sensory deprivation tanks
- Weak statistical significance
  - Small sample size
- Several avenues for future research
ACKNOWLEDGMENTS

Helen Heacock, Vanessa Karakilic, Jessica Ahn
QUESTIONS?
Image References

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