Attitudes Towards Noise at Orthodox Jewish Weddings
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Introduction

• Although occupational hearing loss has been an area of research for some time, more recently the literature has focused on recreational noise exposure and its effects (Bogoch et al 2005; Serra et al 2005; Kujawa, & Liberman, 2006; Fligor,2010)
• Attitudes and behaviors towards recreational noise levels may vary by culture. (Fligor et al 2014; Torre 2008; Crandell et al. 2004; Zogby, 2006). Levey et al (2013) noted potential cultural reasons for differences regarding listening habits of various ethnicities, relating to type and level of music preference, which may be related to primary location of listening preferences at the concomitant where the background environmental background noise.
• A targeted study of specific cultures and ethnicities may yield better assessment of noise levels and attitudes towards noise. In doing so, a more effective hearing conservation program can be established.
• There is limited research assessing the attitudes of noise levels at Orthodox Jewish weddings. Many in the Orthodox Jewish community attend weddings regularly, and thus have frequent exposures to loud levels. Often children are present as well.

Research Questions

• What are the noise levels at various periods at Orthodox Jewish weddings?
• What are the attitudes of attendees regarding music levels at Orthodox Jewish weddings?
• Is there a difference in the attitudes regarding music levels of attendees as a function of age?
• Is there a difference in the attitudes regarding music levels of attendees as a function of gender?

Methods

Survey:
Developed by the researchers consisting of 13 items using a Likert scale to assess wedding attendee’s attitudes towards wedding music volume and its consequences, as well as 3 items: re- demographic data (gender, age, and frequency of wedding attendance). Surveys were distributed in a public space near the entrance of the venues at six Orthodox Jewish weddings from May 2014 to September 2014.

Noise Dosimeter Measurements
Sound level measurements were collected at three Orthodox Jewish weddings using a Casella CEL-35x dB/dBd Dosimeter from May 2014 until August 2014 worn discreetly by the researchers. The dosimeter was turned on towards the beginning of the wedding, and remained activated through the end of the first dance.

Data Analysis
Descriptive statistics for 7 items. Pearson chi-square analyses compared age and gender to selected items to assess any association towards noise and demographic variables.

Survey Data

A total of 149 surveys were collected. Guests present ranged from infants to elderly adults, however, no data were obtained from individuals younger than 18 years of age:

- 68% reported that the music levels during the dancing were too loud (Item 2)
- 36% reported that the music during the meal was too loud. (Item 1)
- 75% believed that the music at weddings reaches damaging levels (Item 4)
- 60% responded having rarely or never the experiencing of tinnitus/ringing. (Item 11)
- 62% responded rarely or never having noticed any change in hearing sensitivity (Item 12)
- Almost half of the respondents (48%) noted an increase in music levels at weddings. (Item 13)

Older adults were more likely to find the music levels during the dancing too loud vs. younger adults X² (15, N = 149) = 42. 36.570, p < .01
Younger adults were more likely to agree that louder music makes the wedding more fun - X² (20, N = 149) = 42.925, p < .01
No significant Association found for gender among any of the items tested.

Dosimeter Data

<table>
<thead>
<tr>
<th>Section</th>
<th>Duration (Minutes)</th>
<th>Laeq (dBA)</th>
<th>Recommended Exposure limit (Minutes)</th>
<th>Noise Dose (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meal Wedding 1</td>
<td>40</td>
<td>91.8</td>
<td>95</td>
<td>29%</td>
</tr>
<tr>
<td>Dancing Wedding 1</td>
<td>46</td>
<td>99.3</td>
<td>18</td>
<td>255.50%</td>
</tr>
<tr>
<td>Meal Wedding 2</td>
<td>39</td>
<td>82.6</td>
<td>12 hrs</td>
<td>5.41%</td>
</tr>
<tr>
<td>Dancing Wedding 2</td>
<td>30</td>
<td>97.6</td>
<td>24</td>
<td>125%</td>
</tr>
<tr>
<td>Meal Wedding 3</td>
<td>41</td>
<td>84.6</td>
<td>8 hrs</td>
<td>8.50%</td>
</tr>
<tr>
<td>Dancing Wedding 3</td>
<td>44</td>
<td>96.6</td>
<td>30</td>
<td>146.60%</td>
</tr>
</tbody>
</table>

Conclusions

• Music levels reach potentially dangerous levels during weddings based on dosimeter recordings, particularly during the dancing portion of the wedding. These higher levels are also reflected in the higher percentage of respondents who judged the volume to be too loud during that segment.
• The concern is increased by the percentage of respondents reporting a trend toward increases in music volume over time
• Although our findings demonstrate an awareness of the risk of music levels, by the percentage of respondents judging them to be dangerous, our research also suggests a need for increased awareness and education regarding healthy hearing and hearing protection for the Orthodox Jewish community, especially within the younger population
• Whether the healthy attitudes found here translate into the use of hearing conservation strategies is the subject of a companion study

Selected References