The purposes of this study are to (1) analyze evidenced-based, primary modification programs on stress, urge, and mixed UI among older women (Semples et al., 2004) and (2) examine the efficacy of such evidenced-based interventions, (3) identify gaps and directions in conducting future research, and (4) make policy recommendations for public health practice among middle-aged and older women.

**Learning Objectives**

1. Assess the efficacy of evidence-based educational and behavior modification programs on stress, urge, and mixed UI among older women.
2. Identify potential future directions on research and health policy related to UI among older women.

**METHODS**

- **Inclusion Criteria:**
  - At least 50% female subjects
  - At least 50% of subjects who were 45 years or older
  - Utilized only the primary preventive methods of education and behavioral modification programs
  - Focused only on stress, urge, or mixed UI

- The search was conducted on studies published from 1973–January 2013.

- The search involved using key terms (e.g., urinary incontinence and urinary leakage) for education, monitoring, exercises, lifestyle changes, or multicomponent primary preventive approaches to UI.

- All studies included outcome measures such as UI frequency and quantity, QoL, help-seeking behavior, and knowledge attained (often measured subjectively).

**RESULTS**

The search yielded 20 evidenced-based studies on educational and behavioral modification programs that were relevant for this review.

**Educational Programs (Table 1)**

- All 3 studies included a focus on improving UI awareness and knowledge (overview, prevention, and treatment) and promoting help-seeking behavior.
- Positive outcomes were seen in the studies that focused on improved help-seeking behavior and knowledge.
- Furthermore, findings revealed a great potential in positive outcomes with the utilization of advanced technology to facilitate UI awareness and knowledge.

<table>
<thead>
<tr>
<th>Study</th>
<th>Educational Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Overview of UI, prevention, and treatment</td>
</tr>
<tr>
<td>2</td>
<td>Promoting help-seeking behavior</td>
</tr>
<tr>
<td>3</td>
<td>Advanced technology utilization</td>
</tr>
</tbody>
</table>

**Lifestyle Modification (Table 1)**

- A decrease in weight loss among obese women was shown to significantly reduce UI frequency and volume loss.

**Exercise (Table 2)**

- The exercises described in this review include mostly pelvic floor muscle training (PFMT) and circular muscular exercise to address UI.
- PFMT is simple, non-invasive, and inexpensive nature, and works to strengthen the muscles of urination.
- UI episodes were reported to have been reduced or improved in all 7 studies involving PFMT.
- Many of the studies highlighted results of positive perceptions of PFMT that can be categorized as improved self-efficacy in managing UI.

<table>
<thead>
<tr>
<th>Exercise Type</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFMT</td>
<td>Improved UI frequency and volume loss</td>
</tr>
<tr>
<td>Circular exercise</td>
<td>Efficacy in managing UI</td>
</tr>
</tbody>
</table>

**Multicomponent Approach (Table 3)**

- Studies that utilized multicomponent approaches to addressing UI recorded a greater majority of statistical significance and reductions in UI episodes than those studies conducted with one approach.
- All studies incorporated PFMT, and most also include BT along with an educational aspect.
- Findings on this section support existing studies on UI on the greater efficacy of multicomponent approaches.

**CONCLUSIONS & DISCUSSION**

- The review of the literature highlights the overall success that the primary preventive methods of educational and behavioral modification (lifestyle modification, monitoring, exercise, and multicomponent approach) programs have on preventing or improving UI conditions.
- Among the different approaches, multicomponent approaches were shown to be most efficacious in preventing UI and improving UI awareness and conditions.
- UI is a major issue that many older women face, yet it is often left unaddressed, which only worsens the condition.
- UI treatments should utilize primary preventive approaches before more invasive methods as devices, surgery, and prescriptive drugs.
- Public health policymakers and researchers should prioritize the issue of UI and increase UI awareness among women.
- Future research and community-based interventions on UI should utilize multicomponent approaches at the primary prevention level.

**REFERENCES**