Outcome evaluation of the Level 4 Group Triple P with Chinese parents with preschool children with developmental disabilities

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• A multi-level, prevention-oriented system of parenting support
• Meta-analyses results indicate that Triple P is effective in reducing child behaviour problems and improving parenting outcomes
• The Triple P Level 4 group format has also been found to be effective with Hong Kong Chinese parents
Chinese children with developmental disabilities

• Difficulties faced by parents with children with developmental disabilities
  – Persistent and severe behaviour problems
  – Extra time on the part of parents in terms of
    • Assisting with self-care
    • Attending treatment
    • Ongoing supervision of behaviour to prevent harm to self or others
Difficulties faced by Chinese parents with children with developmental disabilities

- Traditional stigmatizing Chinese view of disability as a shame or punishment for the family
- Chinese parents with children with disabilities were found to experience higher parenting stress than parents with children with typical development (Leung & Tsang, 2010)
Rationale for the present study

• Effective support programs are needed to alleviate the stress of these Chinese families
• Additional costs are incurred in translating new variants (e.g. Group Stepping Stones Triple P)
• Useful to test whether available standard programs can be effective with new populations
The present study

- To test the efficacy and acceptability of the Level 4 group version on Chinese parents with preschool children with developmental disabilities, using randomized controlled trial design, within a community setting
Hypotheses

• Compared to parents in the control condition, parents receiving the group Triple P intervention would report:

1. Lower post-intervention child behaviour problems than the control group
2. Lower post-intervention parental stress than the control group
3. Lower post-intervention parental conflict than the control group
4. Lower post-intervention dysfunctional discipline styles than the control group
METHOD
Participants

- Parents of children who were clients of SAHK (with confirmed diagnosis)
- 81 participants
  - Intervention group - 42
  - Control group - 39
- 74 participants with complete data
  - Intervention group - 39
  - Control group - 35
Participants

Boys

Girls

Intervention group

Control group

Intervention group

Control group

Intervention group

Control group

Intervention group

Control group
## Participants

<table>
<thead>
<tr>
<th></th>
<th>Intervention Group (n = 42)</th>
<th>Control Group (n = 39)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age of target child</td>
<td>50.48 (12.31)</td>
<td>49.74 (10.71)</td>
</tr>
<tr>
<td>Mother as participant</td>
<td>37 (88.1%)</td>
<td>35 (89.7%)</td>
</tr>
<tr>
<td>Marital status - married</td>
<td>40 (97.6%)</td>
<td>35 (92.1%)</td>
</tr>
<tr>
<td>Family type - nuclear</td>
<td>36 (85.7%)</td>
<td>28 (71.8%)</td>
</tr>
<tr>
<td>Mother’s education – primary or below</td>
<td>7 (16.7%)</td>
<td>2 (5.3%)</td>
</tr>
<tr>
<td>Mother’s education – secondary</td>
<td>27 (64.3%)</td>
<td>29 (76.3%)</td>
</tr>
<tr>
<td>Mother’s education - tertiary</td>
<td>8 (19.0%)</td>
<td>7 (18.4%)</td>
</tr>
<tr>
<td>Father’s education – primary or below</td>
<td>4 (10.3%)</td>
<td>3 (8.1%)</td>
</tr>
<tr>
<td>Father’s education – secondary</td>
<td>26 (66.7%)</td>
<td>25 (67.6%)</td>
</tr>
<tr>
<td>Father’s education - tertiary</td>
<td>9 (23.1%)</td>
<td>9 (24.3%)</td>
</tr>
<tr>
<td>Mother employed</td>
<td>18 (42.9%)</td>
<td>14 (36.8%)</td>
</tr>
<tr>
<td>Father employed</td>
<td>34 (82.9%)</td>
<td>29 (80.6%)</td>
</tr>
</tbody>
</table>
Measures

- Eyberg Child Behaviour Inventory (ECBI)
  - Intensity
  - Problem
- Parental Stress Scale (PSS)
- Parenting Scale (PS)
  - Laxness
  - Over-reactivity
  - Verbosity
Measures

- Parent Problem Checklist (PPC)
  - Concern
  - Intensity
- Client Satisfaction Questionnaire (CSQ)
- Demographic information
• Promotion posters and application forms were distributed to all parents of preschool children who were receiving SAHK services
• Participants were randomly allocated to either the intervention group (Triple P) or control group, in the service district they resided in
• Completion of pre and post questionnaires
• Completion of 6-month follow-up questionnaires by intervention group participants
• Control group started Triple P program after intervention group had completed Triple P
Flow of participants

Enrolled ($N = 81$)

- Intervention ($n = 42$)
  - Completed pre questionnaires ($n = 42$)
    - Withdrew ($n = 3$)
      - Completed post questionnaires ($n = 39$)
        - Completed follow-up questionnaires ($n = 36$)
  - Control ($n = 39$)
    - Completed pre questionnaires ($n = 39$)
      - Withdrew ($n = 4$)
        - Completed post questionnaires ($n = 35$)
Data analysis

- **Intention-to-treat**
- **Missing data**
  - Multiple imputation with 5 imputations
- **Analysis of covariance (ANCOVA)**
  - Independent variable – group status
  - Dependent variable – post-intervention measures
  - Covariate – pre-intervention measures
- **Repeated measures analysis of variance (ANOVA)**
 RESULTS
The sample

• No significant differences between those with complete and incomplete data on pre-intervention measures and demographic characteristics

• No significant differences between intervention and control group in terms of demographic characteristics
The sample

• Significant differences between the intervention and control group in terms of pre-intervention
  – ECBI-Intensity
  – ECBI-Problem
  – PPC-Intensity
  – PSS
<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECBI-Intensity</strong></td>
<td>.92</td>
<td>.89</td>
<td>.89</td>
</tr>
<tr>
<td><strong>ECBI-Problem</strong></td>
<td>.91</td>
<td>.89</td>
<td>.90</td>
</tr>
<tr>
<td><strong>PSS</strong></td>
<td>.88</td>
<td>.87</td>
<td>.81</td>
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<tr>
<td><strong>PPC-Intensity</strong></td>
<td>.92</td>
<td>.93</td>
<td>.81</td>
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<tr>
<td><strong>PPC-Concern</strong></td>
<td>.86</td>
<td>.85</td>
<td>.75</td>
</tr>
<tr>
<td><strong>PS-Laxness</strong></td>
<td>.65</td>
<td>.73</td>
<td>.77</td>
</tr>
<tr>
<td><strong>PS-Over reactivity</strong></td>
<td>.77</td>
<td>.78</td>
<td>.64</td>
</tr>
<tr>
<td><strong>PS-Verbosity</strong></td>
<td>&lt;.3</td>
<td>&lt;.3</td>
<td>&lt;.3</td>
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</table>
Intention-to-treat analysis

[Graph showing data for various measures before and after intervention, with categories such as ECBI-Intensity, ECBI-Problem, PSS, PPC-Intensity, PPC-Concern, PS-Laxness, PS-Over reactivity, with Intervention group pre/post and Control group pre/post represented by different colors.]
Reliable change (Intention-to-treat)
Maintenance of gains (Intention-to-treat)
Complete data

Graph showing data for different categories:
- ECBI-Intensity
- ECBI-Problem
- PSS
- PPC-Intensity
- PPC-Concern
- PS-Laxness
- PS-Over reactivity

Legend:
- Blue bar: Intervention group pre
- Orange bar: Intervention group post
- Green bar: Control group pre
- Purple bar: Control group post
Reliable change (complete data)
Maintenance of gains (complete data)

- ECB-Intensity
- ECBI-Problem
- PSS
- PPC-Intensity
- PPC-concern
- PS-Laxness
- PS-Overreactivity

Pre-intervention, Post-intervention, 6-month follow-up
Hypotheses

• Hypothesis 1 – reduction in child behaviour problems in the intervention group, compared with the control group, and this change could be maintained at six months after program completion

• Hypothesis 2 – reduction in parental stress in the intervention group, compared with the control group, and this change could be maintained at six months after program completion
• Hypothesis 3 – reduction in parental conflict in the intervention group, compared with the control group, and this change could be maintained at six months after program completion

• Hypothesis 4 – reduction in dysfunctional discipline styles in the intervention group, compared with the control group, and this change could be maintained at six months after program completion
Comparison with Triple P findings

• Consistent with the findings of Leung, Sanders et al (2003) with Chinese families and the results of many Triple P meta-analysis results

• Medium effect size

• Triple P Level 4 group version was effective with Chinese families with preschool children with developmental disability
Comparison with Stepping Stones

- Effect sizes comparable to Stepping Stones Triple P
- Percentage achieving reliable change comparable with Stepping Stones Triple P
Limitations

• Differences in pre-intervention measures between intervention and control group
• Only Intervention group participants were included in the 6-month follow-up study
• Facilitators’ protocol adherence was not measured
Implications for service

- Involvement of other family members in Triple P
- Training of preschool staff on basic principles of Triple P
- Sensitive to the different needs of children and families and be flexible in delivery while retaining program fidelity
Conclusions

- The Level 4 group Triple P is effective with Chinese families with children with developmental disabilities
- Triple P Level 4 group format could be a cost-effective strategy for Chinese parents with children with developmental disability
- Determining the limits of applicability of an existing available resource with some minor tailoring is a logical and cost effective approach, until Stepping Stones Triple P as a group program is available in Chinese
Uniqueness of present study

- A serviced-based evaluation using regular service providers rather than hand-picked expert clinicians used in many efficacy trials.
- The program was being universally offered to parents of children with developmental disability in a community setting, providing promising support for a public health model of parent training for children with developmental disabilities.
The program was offered to parents of children with diverse disabilities. The facilitators were careful to flexibly attend to the diverse needs of the families while maintaining program fidelity at the same time.
Directions for future research

- Further studies to establish more conclusive evidence for the effectiveness of Triple P
- To map out the characteristics of families and children who might benefit from Triple P
- To investigate the effectiveness of the Stepping Stones Triple P with Chinese families
- To compare the cost-effectiveness of the Stepping Stones Triple P with Level 4 group Triple P
THANK YOU