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Identifying practice and program elements of interventions for families with multiple problems: The development of a taxonomy

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1. Introduction

Families with multiple problems (FMP), also defined as multiproblem families or multistressed families, face multiple, severe, chronic and intertwined problems in different areas of life (Morris, 2013; Spratt & Devaney, 2009; Tausendfreund, Knot-Dickscheit, Schulze, Knorth, & Grietens, 2016). Situations FMP are confronted with include financial problems, psychiatric problems, parenting problems, relationship problems, health problems, social network problems and problems in the domain of justice (Bodden & Deković, 2016). Furthermore, these families are characterized as difficult to engage in care. The problems faced by FMP have serious consequences for their health, quality of life and participation in society (Bodden & Deković, 2016). In our study, the definition of FMP is based on the definition of Ghesquiere (1993, p.42). We define a FMP as a family in which at least one parent and one child are facing chronic complex socio-economical and psychosocial problems.

The wide range of problems of FMP has led to various interventions targeting diverse problems which makes it hard to compare their outcomes. Nowadays, although some interventions targeting FMP, like systemic family therapies (e.g. Multidimensional Family Therapy [MDFT] and Multisystemic Therapy [MST]) have been proved effective, (Asscher et al., 2014; Liddle, Rowe, Dakof, Henderson, & Greenbaum, 2009; van der Stouwe, Asscher, Stams, Deković, & van der Laan, 2014) information is lacking as to which elements are part of the intervention and which elements lead to the desired outcomes (Michie, Fixsen, Grimshaw, & Eccles, 2009). This lack of knowledge forces practitioners to choose an intervention for the needs of FMP without knowing the content of the intervention (Kazdin, Bass, Ayers, & Rodgers, 1990; Lee et al., 2014). Furthermore, this lack of knowledge hinders the interpretation and comparison of outcomes of interventions targeting FMP and calls for research on the elements that may contribute to outcomes.

Identifying practice and program elements (Blase & Fixsen, 2013; Chorpita, Daleiden, & Weisz, 2005; Michie et al., 2009) is a promising way to obtain more detailed knowledge on the interventions targeting FMP. Practice elements are distinct techniques (e.g., modelling, social skills training) delivered by the practitioner to promote positive outcomes (Lee et al., 2014). Program elements are aspects of the intervention design and service delivery system that might impact the results, for example 24 hour reachability (Lee et al., 2014). The identification of practice and program elements is a first step for being able to connect these elements to outcomes empirically (Lee & Barth, 2011; Michie et al., 2009).

The use of a taxonomy may help to delineate and to identify practice and program elements of interventions targeting FMP, but until now, existing taxonomies are not able to fully capture the wide range of elements of these interventions. A taxonomy is a classification system for systematically gathering information on the elements of interventions (Evenboer, Huyghen, Tuinstra, Reijneveld, & Knorth, 2017). The use of a taxonomy is fairly new in child and youth care. A few taxonomies have been developed, but these have several limitations when using to identify practice and program elements of interventions targeting FMP. First, these taxonomies are focusing on individual treatments targeting specific behavioral or emotional problems such as disruptive behavior disorders (Chorpita & Daleiden, 2009; Garland, Hawley, Brookman-Frazee, & Hurlburt, 2008), anxiety (Chorpita & Daleiden, 2009), and depression (Chorpita & Daleiden, 2009), whereas families with multiple problems have combinations of problems in different domains including financial and parenting problems (Lee et al., 2014). The two taxonomies targeting this wider range of problems only cover practice elements, and only of two interventions targeting FMP (Tausendfreund et al., 2015; Ten Brink, Veerman, De Kemp, & Berger, 2004). A second limitation of the existing taxonomies is that they mainly focus on identifying practice elements without taking the program elements into account (Michie et al., 2013; PracticeWise, 2005; Tausendfreund et al., 2015; Ten Brink et al., 2004). Program elements provide a clear frame in which practice elements are carried out, making it highly needed to take them into account, especially for FMP (Barth, Kolivoski, Lindsey, Lee, & Collins, 2014; Lee et al., 2014). Third, information about the interrater reliability of these taxonomies is generally missing, which is needed to address the potential for varied measuring techniques between practitioners (Evenboer, Huyghen, Tuinstra, Reijneveld, & Knorth, 2012).

To date there is no comprehensive taxonomy with which practice and program elements of a wide range of interventions targeting FMP can be fully identified. Therefore the aim of this study is (1) to develop a taxonomy to identify practice and program elements of a wide range of interventions targeting FMP and (2) examine the interrater reliability of this taxonomy.

2. Methods

We constructed the taxonomy of interventions for families with multiple problems (TIFMP) using a content analysis methodology (Elo & Kyngäs, 2008) based on the methodology of Garland et al., (2008) and Chorpita et al., (2005). This methodology required the development of an analysis matrix, open coding, grouping, categorization and abstraction (Elo & Kyngäs, 2008). Therefore, we first developed a draft version of the TIFMP (analysis matrix). Second we assessed manuals of interventions targeting FMP (open coding), third we performed a field consultation (open coding), fourth we developed a final version of the TIFMP (grouping, categorization and abstraction) and finally we assessed the interrater reliability of the TIFMP. The five steps that were taken are shown in Figure 1; each step will be further described below.

[INSERT FIGURE 1]

2.1. Step 1: development of a draft version of the TIFMP

We first developed a draft version of the TIFMP based on the main categories and the identified practice elements of two existing Dutch taxonomies regarding FMP: the Knowledge and Insight into Primary Processes list of care activities (KIPP-list), and the workers form for recording family techniques (FFT) (Tausendfreund et al., 2015; Ten Brink et al., 2004). The KIPP-list was developed for the intervention 10 for the Future as a taxonomy to support family coaches in systematically reporting care activities conducted as part of that intervention. The KIPP-list was based on the components of 10 for the Future, and on the findings of a review of similar instruments used in the Netherlands and of a practitioner survey (Tausendfreund et al., 2015). The KIPP-list eventually consisted of 55 care activities. FFT was developed for the intervention Families First, as a taxonomy, which enables to check if the intervention was carried out as intended. FFT was based on the components of Families First, and consisted of 37 care activities (Ten Brink et al., 2004). Second, we identified practice elements from taxonomies in child and youth care used in international research and practice (Michie et al., 2013; PracticeWise, 2005) and from national guidelines established for FMP (Steege, van der., & Zoon, 2015). From the aforementioned taxonomies and documents, we first included practice elements that met the following definition: “Distinct techniques delivered by the practitioner to promote positive outcomes” (Lee et al., 2014, p.247). Second, we eliminated practice elements that:

- Were tools by which a practice element could be carried out (e.g., “asking the exceptional question” or “using a flow chart”);
- Were part of another practice element (e.g., “exploring exceptions in order to formulate goals” or “enactment in order to promote communication between family members”).

All the included practice elements were put into main categories based on the main categories of the two existing taxonomies that we started with (Tausendfreund et al., 2015; Ten Brink et al., 2004).

2.2. Step 2: assessment of intervention manuals

Next, we systematically assessed manuals of interventions targeting FMP in order to complement the draft version of the TIFMP with relevant practice elements. A systematic review on 30 interventions targeting FMP showed eight of these interventions to have at least moderate (>0.5) effect sizes in the Dutch context on domains such as problem behavior of the child and/or parenting stress (Evenboer, Reijneveld & Jansen, 2018). More detailed information on research designs of these intervention studies and outcome measures can be found in Evenboer, Reijneveld & Jansen (2018). The selected interventions were: Multisystemic Therapy (MST), Multidimensional Family Therapy (MDFT), Intensive Family Treatment (IFT), Families First (FF) and Family Central (FC), Parent Management Training Oregon (PMTO), Triple P 4-5 and 10 for the Future (10FF) (Evenboer, Reijneveld, & Jansen, 2018). Therefore, the intervention manuals of these interventions were assessed. Background information on the eight interventions is shown in Table 1.

The first author and a research assistant independently assessed the manuals using the draft version of the TIFMP (step 1). During this assessment, we searched the intervention manuals for practice elements that were part of the intervention manuals but were not yet part of the draft version of the TIFMP. Practice elements were added to the draft version of the TIFMP if they met the definition as mentioned in step 1.

[INSERT TABLE 1]

2.3. Step 3: consultation of intervention experts

Third, during a field consultation the first author and a coauthor (J.W.V) discussed the comprehensiveness of the draft version of the TIFMP (step 2) with 18 regional intervention experts, two per intervention at least. These persons were selected by the national intervention

experts based on their experience with carrying out one of the eight interventions. This field consultation was aimed at reaching consensus on the list of practice elements that were found in the intervention manuals (step 2). In addition, the intervention experts were consulted about program elements that they thought to be needed as part of the intervention concerned but were missing in the draft version of the TIFMP. Program elements were included in the TIFMP when they were part of the intervention manuals and were mentioned by the intervention expert as an important element of the intervention they represented. Missing practice elements were included when they met the definition as mentioned in step 1.

2.4. Step 4: development of the final version of the TIFMP

In step 4, the first author and three coauthors (J.W.V., J.K.D., K.E.) developed the final version of the TIFMP, by categorizing all practice and program elements identified in the previous steps. First, we grouped the identified practice and program elements in main categories, based on main categories defined in step 1 (Tausendfreund et al., 2015; Ten Brink et al., 2004). When we were not able to categorize a practice or program element in an existing main category, a new main category was made (e.g., a category for practice elements regarding learning parenting skills).

2.5. Step 5: analysis of the interrater reliability regarding the practice elements of the final version of the TIFMP

Finally, we assessed the interrater reliability of the final version of the TIFMP. The first author (MSc Interdisciplinary Social Sciences) and a research assistant (MSc, Pedagogy and Educational Sciences) independently assessed the intervention manuals of the eight selected interventions on practice elements (see step 2). During this assessment we rated every practice element as being part or not of the intervention manual. The interrater reliability was assessed by calculating the percentages of agreement overall and per intervention. This was the most appropriate measure for interrater reliability, as the base rates of scores in each category were low (Feinstein & Cicchetti, 1990). Agreement was considered to be sufficient if the percentage of agreement was between 80% and 100%.

3. Results

The final version of the TIFMP consisted of eight main categories comprising 53 practice elements and one category with six program elements of interventions targeting FMP (Table 2).

[INSERT TABLE 2]

3.1. *Practice elements of interventions targeting FMP*

The 53 practice elements could be thematically divided into eight main categories, as listed in Table 2. The main categories were:

- A. **Assessment of problems.** This category involves practice elements that aim to collect and structure information about the family and the problems they experience. An example of a practice element in this category is “analysis of competencies”.
- B. **Planning and evaluation.** This category involves practice elements that aim to translate problems of the family in goals and practice elements involving the evaluation of these goals. An example of a practice element in this category is “designing the treatment plan”.
- C. **Working on change.** This category involves practice elements that aim to realize change. An example of a practice element in this category is “working on communication and interaction”.
- D. **Learning parenting skills.** This category involves practice elements that aim to strengthen parenting skills. An example of a practice element in this category is “learning to set rules”.
- E. **Helping with concrete needs.** This category involves practice elements that aim to ease the burden of practical tasks. An example of a practice element in this category is “helping with financial tasks”.
- F. **Activating the social network.** This category involves practice elements that aim to engage the social network around the family to help and support the family. An example of a practice element in this category is “mobilizing and expanding the social network”.
- G. **Activating the professional network.** This category involves practice elements that aim to adapt goals, appointment and procedures with other practitioners working with

the family. An example of a practice element in this category is “collaborating with other professionals who are working with the family”.

- H. **Maintaining the practitioner-client collaboration.** This category involves practice elements that aim to maintain and promote the collaboration between the practitioner and the client. An example of a practice element in this category is “talking about expectations.”

3.2. *Program elements of interventions targeting FMP*

The TIFMP consisted of six program elements of interventions targeting FMP: duration and intensity of the intervention, supervision (e.g., discussing the family with a supervisor during an organized meeting), intervention (e.g., discussing the family with colleagues during an organized meeting), consultation (e.g., discussing the family with an independent expert during an organized meeting) and 24-hour reachability.

3.3. *Interrater reliability of the practice elements of the TIFMP*

Reliability of the identification of the 53 practice elements in the intervention manuals was tested. Agreement occurred when both researchers identified the practice element or when both researchers did not identify the practice element. Disagreement occurred when one researcher identified a practice element in the intervention manual while the other researcher did not identify this practice element. The overall mean agreement was 84.9%, ranging from 73.6% to 90.6% for the eight different interventions (Table 3). Only FC and MDFT had interrater agreements slightly below sufficient (77.4% for FF and 73.6% for MDFT) while the other six interventions had sufficient interrater agreements.

[INSERT TABLE 3]

4. **Discussion**

The aim of our study was (1) to develop a taxonomy to identify practice and program elements of a wide range of interventions targeting FMP and (2) examine the interrater reliability of this taxonomy. Our study showed that we could describe a wide range of interventions targeting FMP with a taxonomy comprising 53 practice elements falling in eight main categories, and six program elements. Raters had an average agreement of 84.9%, ranging from 73.6% to 90.6% for eight interventions targeting FMP.

Compared to the practice and program elements of existing taxonomies in child and youth care, the TIFMP includes more categories in order to identify the wider range of problems of FMP. Existing taxonomies of Garland et al., (2009) and Chorpita et al., (2005) have a narrower focus on practice elements regarding the individual treatment of specific disorders. In comparison with our taxonomy for FMP, these taxonomies mainly comprise elements of our categories “working on behavioral change” and “learning parenting skills”, for example “principles of positive reinforcement” (Garland et al., (2009)) or “parent praise” (Chorpita et al., (2005)). Because of the wider range of problems of FMP, our taxonomy also includes main categories of practice elements that aim to ease the burden of tasks, to activate the social and professional network around the family, and to maintain the practitioner-client collaboration.

Our study showed that the included interventions targeting FMP covered mostly the same practice elements, indicating that these interventions share similar contents. This finding aligns with the concept of “treatment families”, introduced by Southam Gerow and Prinstein (2014), meaning that interventions could be organized in treatment groups that share mechanisms of change while using different brand names. Differences in program elements, for example the duration of the interventions, were relatively larger, underscoring the importance of including program elements in a taxonomy for FMP. This importance of including program elements is further supported by the finding that the intensity and the duration of intensive home visiting interventions, the frequency and quality of intervention and supervision and the 24-hours reachability of the practitioner contribute to the effectiveness of interventions targeting FMP (Lee et al., 2014; MacLeod & Nelson, 2000; Peacock, Konrad, Watson, Nickel, & Muhajarine, 2013). These program elements provide a framework for applying practice elements and should thus be accounted for when identifying the content of interventions targeting FMP.

The mean interrater reliability of the TIFMP across the eight interventions was 84.9%, indicating that practice elements of interventions for FMP can be reliably distilled from the intervention manuals with the TIFMP. Previous studies which applied taxonomies to intervention manuals found a comparable agreement, ranging from 85% to 95% (Abraham & Michie, 2008; Michie, Hyder, Walia, & West, 2011). However, these taxonomies focussed on behavioral change and support for smoking cessation. This regarded a considerably smaller number of practice elements, probably automatically leading to a somewhat stronger agreement. The good interrater reliability of the TIFMP calls for an assessment of its interrater reliability in routine practice as a next step.

4.1. Strengths and limitations

A major strength of this study is our use of a reproducible empirical development procedure consisting of different steps and data sources. We developed the taxonomy based on existing taxonomies in child and youth care as used in international research and practice, national guidelines established for FMP, intervention manuals and a field consultation to verify the comprehensiveness of the taxonomy. Moreover, we consulted two intervention experts from each intervention during the field consultation, strengthening the content validity of the TIFMP.

Another strength is the use of several internationally applied interventions - MDFT, MST, PMTO and Triple P 4 – which increases the generalizability of our TIFMP for other countries: these interventions are documented as “well supported by research evidence” according to, for example, the CA Clearinghouse of Evidence Based Practice (<http://www.cebc4cw.org/>).

A limitation of this study might be the use of only eight interventions targeting FMP, potentially leading to the missing of important elements of interventions targeting FMP. However, the range of interventions as included is representative for FMP, widely applied in the Dutch context and were shown to be the most effective interventions for FMP in this Dutch context (i.e., having at least moderate effect sizes (>0.5)) (Evenboer, Reijneveld & Jansen, 2018).

A second limitation regards the assessment of the reliability of the TIFMP, which now only relies on a limited number of assessors. Further, research on the interrater reliability of this taxonomy is warranted, on more pairs of raters and on using this taxonomy in daily practice (Pieper, Jacobs, Weikert, Fishta, & Wegewitz, 2017).

4.2. Implications

The findings of our study have implications for policy makers, practitioners and researchers related to FMP. First, the TIFMP enables them to reliably unravel the practice and program elements of interventions targeting FMP. This structured collection of information may yield more insight in the actual content of interventions targeting FMP and into their similarities and differences (i.e., common and intervention-specific elements). This insight can be helpful for policy makers to better assess the value of different existing and new interventions targeting FMP based on their content.

For practitioners, the use of the TIFMP may help to reflect on the care as provided and improve its tailoring to the clients' needs (Ruch, 2007; Tausendfreund et al., 2015). This may

for example regard the sequencing of applied practice elements (e.g., activities to improve communication skills of the family) or program elements such as the duration and the intensity of the intervention. In this way, reflection on the applied practice and program elements can help to improve the personalized quality of care for FMP (Ng & Weisz, 2016).

For researchers, using the TIFMP to identify practice and program elements in the care for FMP is an important first step towards the identification of effective elements for FMP. Future research should focus on the identification of effective elements for FMP by structurally gathering information about the effects of applied practice and program elements in practice.

Although our findings show that the TIFMP can be used to identify practice and program elements of a wide range of interventions for FMP, further research is needed on the feasibility and interrater reliability of this instrument in daily practice. Future studies should also address the added value of different taxonomies in child and youth care. Even though, our study has shown that a taxonomy of interventions for FMP should include a wider range of categories than existing taxonomies for child and youth care, further research is needed to examine if, and how, different taxonomies in the care for youth could be combined in one feasible taxonomy for identifying practice and program elements of all interventions within child and youth care.

5. Conclusion

We found that the practice and program elements of a wide range of FMP interventions can be described reliably with the TIFMP. Using this taxonomy can provide more insight into the actual content of interventions and is a first step towards more knowledge about the practice and program elements of interventions for FMP which can contribute to research on the effectiveness of these elements for FMP.

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References

- Abraham, C., & Michie, S. (2008). A taxonomy of behavior change techniques used in interventions. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, 27(3), 379–87. <https://doi.org/10.1037/0278-6133.27.3.379>
- Asscher, J. J., Deković, M., Manders, W., van der Laan, P. H., Prins, P. J. M., & van Arum, S. (2014). Sustainability of the effects of multisystemic therapy for juvenile delinquents in The Netherlands: effects on delinquency and recidivism. *Journal of Experimental Criminology*, 10, 227–243. <https://doi.org/10.1007/s11292-013-9198-8>
- Barth, R. P., Kolivoski, K. M., Lindsey, M. A., Lee, B. R., & Collins, K. S. (2014). Translating the Common Elements Approach: Social Work's Experiences in Education, Practice, and Research. *Journal of Clinical Child and Adolescent Psychology*, 43(2), 301–311. <https://doi.org/10.1080/15374416.2013.848771>
- Blase, K., & Fixsen, D. L. (2013). Core intervention components: identifying and operationalizing. *ASPE Research Brief*, (February), 21. <https://doi.org/10.1177/1049731509335549>
- Bodden, D. H. M., & Deković, M. (2016). Multiproblem Families Referred to Youth Mental Health: What's in a Name? *Family Process*, 55(1), 31–47. <https://doi.org/10.1111/famp.12144>
- Chorpita, B. F., & Daleiden, E. L. (2009). Mapping evidence-based treatments for children and adolescents: Application of the distillation and matching model to 615 treatments from 322 randomized trials. *Journal of Consulting and Clinical Psychology*, 77(3), 566–579. <https://doi.org/10.1037/a0014565>
- Chorpita, B. F., Daleiden, E. L., & Weisz, J. R. (2005). Identifying and selecting the common elements of evidence based interventions: A distillation and matching model. *Mental Health Services Research*, 7(1), 5–20. <https://doi.org/10.1007/s11020-005-1962-6>
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107–115. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>
- Evenboer, K. E., Huyghen, A. M. N., Tuinstra, J., Reijneveld, S. A., & Knorth, E. J. (2012). Taxonomic systems in the field of health care, family care, and child and youth care: A systematic overview of the literature. *Children and Youth Services Review*, 34(12), 2304–2310. <https://doi.org/10.1016/j.childyouth.2012.08.007>
- Evenboer, K. E., Reijneveld, S. A., & Jansen, D. E. M. C. (2018). Improving care for

- multiproblem families: Context-specific effectiveness of interventions? *Children and Youth Services Review*, 88, 274–285. <https://doi.org/10.1016/j.childyouth.2018.03.024>
- Evenboer, K., Huyghen, A., Tuinstra, J., Reijneveld, S., & Knorth, E. (2017). Looking into care: The reliability and feasibility of a Taxonomy of Care for Youth. *Journal of Social Work*, 17(1), 21–33. <https://doi.org/10.1177/1468017316637223>
- Feinstein, A. R., & Cicchetti, D. V. (1990). High agreement but low Kappa: I. the problems of two paradoxes. *Journal of Clinical Epidemiology*, 43(6), 543–549. [https://doi.org/10.1016/0895-4356\(90\)90158-L](https://doi.org/10.1016/0895-4356(90)90158-L)
- Garland, A. N. N. F., Hawley, K. M., Brookman-Frazee, L., & Hurlburt, M. S. (2008). Identifying Common Elements of Evidence-Based Psychosocial Treatments for Children’s Disruptive Behavior Problems. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47(5), 505–514. <https://doi.org/10.1097/CHI.0b013e31816765c2>
- Ghesquière, P. (1993). Multi-problem gezinnen: Problematische hulpverleningssituaties in perspectief [Multi-problem families: Problematic care situations in perspective]. Leuven, Belgium: Garant.
- Kazdin, A. E., Bass, D., Ayers, W. A., & Rodgers, A. (1990). Empirical and Clinical Focus of Child and Adolescent Psychotherapy Research. *Journal of Consulting and Clinical Psychology*, 58(6), 729–740. <https://doi.org/10.1037//0022-006X.58.6.729>
- Lee, B. R., & Barth, R. P. (2011). Defining Group Care Programs: An Index of Reporting Standards. *Child and Youth Care Forum*, 40(4), 253–266. <https://doi.org/10.1007/s10566-011-9143-9>
- Lee, B. R., Ebesutani, C., Kolivoski, K. M., Becker, K. D., Lindsey, M. A., Brandt, N. E., ... Barth, R. P. (2014). Program and practice elements for placement prevention: A review of interventions and their effectiveness in promoting home-based care. *American Journal of Orthopsychiatry*, 84(3), 244–256. <https://doi.org/10.1037/h0099811>
- Liddle, H. A., Rowe, C. L., Dakof, G. A., Henderson, C. E., & Greenbaum, P. E. (2009). Multidimensional family therapy for young adolescent substance abuse: Twelve-month outcomes of a randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 77(1), 12–25. <https://doi.org/10.1037/a0014160>
- MacLeod, J., & Nelson, G. (2000). Programs for the promotion of family wellness and the prevention of child maltreatment: A meta-analytic review. *Child Abuse and Neglect*, 24(9), 1127–1149. [https://doi.org/10.1016/S0145-2134\(00\)00178-2](https://doi.org/10.1016/S0145-2134(00)00178-2)
- Michie, S., Fixsen, D., Grimshaw, J. M., & Eccles, M. P. (2009). Specifying and reporting complex behaviour change interventions: the need for a scientific method.

- Implementation Science*, 4(1), 40. <https://doi.org/10.1186/1748-5908-4-40>
- Michie, S., Hyder, N., Walia, A., & West, R. (2011). Development of a taxonomy of behaviour change techniques used in individual behavioural support for smoking cessation. *Addictive Behaviors*, 36(4), 315–319.
<https://doi.org/10.1016/j.addbeh.2010.11.016>
- Michie, S., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., ... Wood, C. E. (2013). The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: Building an international consensus for the reporting of behavior change interventions. *Annals of Behavioral Medicine*, 46(1), 81–95.
<https://doi.org/10.1007/s12160-013-9486-6>
- Morris, K. (2013). Troubled families: Vulnerable families’ experiences of multiple service use. *Child and Family Social Work*, 18(2), 198–206. <https://doi.org/10.1111/j.1365-2206.2011.00822.x>
- Ng, M. Y., & Weisz, J. R. (2016). Annual research review: Building a science of personalized intervention for youth mental health. *Journal of Child Psychology and Psychiatry*, 57, 216–236. doi:10.1111/jcpp.12470
- Peacock, S., Konrad, S., Watson, E., Nickel, D., & Muhajarine, N. (2013). Effectiveness of home visiting programs on child outcomes: A systematic review. *BMC Public Health*, 13(1). <https://doi.org/10.1186/1471-2458-13-17>
- Pieper, D., Jacobs, A., Weikert, B., Fishta, A., & Wegewitz, U. (2017). Inter-rater reliability of AMSTAR is dependent on the pair of reviewers. *BMC Medical Research Methodology*, 17(1). <https://doi.org/10.1186/s12874-017-0380-y>
- PracticeWise. (2005). *Psychosocial and combined treatments coding manual*. Florida: Satellite Beach.
- Ruch, G. (2007). “Thoughtful” practice: Child care social work and the role of case discussion. *Child and Family Social Work*, 12(4), 370–379.
<https://doi.org/10.1111/j.1365-2206.2006.00466.x>
- Southam-Gerow, M.A., & Prinstein, M.J. (2014). Evidence Base Updates: The Evolution of the Evaluation of Psychological Treatments for Children and Adolescents. *Journal of Clinical Child & Adolescent Psychology*, 43(1), 1-6.
<https://doi.org/10.1080/15374416.2013.855128>
- Spratt, T., & Devaney, J. (2009). Identifying families with multiple problems: Perspectives of practitioners and managers in three nations. *British Journal of Social Work*, 39(3), 418–434. <https://doi.org/10.1093/bjsw/bcm151>

- Steege, van der, M., & Zoon, M. (2015). *Guideline multiproblem families for youth care and youth protection*. Utrecht: Netherlands Youth Institute. [In Dutch].
- Tausendfreund, T., Knot-Dickscheit, J., Schulze, G. C., Knorth, E. J., & Grietens, H. (2016). Families in multi-problem situations: Backgrounds, characteristics, and care services. *Child & Youth Services*, 37(1), 4–22. <https://doi.org/10.1080/0145935X.2015.1052133>
- Tausendfreund, T., Metselaar, J., Conradie, J., De Groot, M. H., Schipaanboord, N., Knot-Dickscheit, J., ... Knorth, E. J. (2015). Self-reported care activities in a home-based intervention programme for families with multiple problems. *Journal of Children's Services*, 10(1), 29–44. <https://doi.org/10.1108/JCS-07-2014-0034>
- Ten Brink, L. T., Veerman, J. W., De Kemp, R. A. T., & Berger, M. A. (2004). Implemented as intended? Recording family worker activities in a families first program. *Child Welfare*, 83(3), 197-215.
- van der Stouwe, T., Asscher, J. J., Stams, G. J. J. M., Deković, M., & van der Laan, P. H. (2014). The effectiveness of multisystemic therapy (MST): A meta-analysis. *Clinical Psychology Review*, 34(6), 468–481. <https://doi.org/10.1016/j.cpr.2014.06.006>

Figure 1. Development procedure of the TIFMP

Table 1. Background information on the eight selected interventions

Intervention	Duration	Aim of the intervention, target group, focus of the intervention and theory of change
Parent Management Training Oregon (PMTO)	5 months	Aim of the intervention is to provide parents more systematic and effective parenting strategies to positively influence the relationship between parent and child and to reduce the amounts of conflicts. Target group of the intervention is parents with children between 4 and 12 years who are showing severe externalizing problem behavior in combination with hyperactivity. Focus of the intervention is reinforcement of positive behavior of the parents/child(ren). Theory of change of the intervention is the social interaction learning theory.
Multisystemic Therapy (MST)	3 to 5 months	Aim of the intervention is to prevent an out-of-home placement. The target group is children from 12 to 18 years with severe antisocial/border-crossing behavior and their parents. The problems occur at multiple life domains and could lead to out of home placement of the child. Focus of the intervention is on the child, family, friends, school and peers. Theory of change is the social ecological theory of Bronfenbrenner.
Multidimensional Family Therapy (MDFT)	3 to 7 months	Aim of the intervention is to reduce criminal and addictive behavior and related behavioral and emotional problems of the child, enhancing the communication within the family and increase the social cohesion. The target group is youth from 12 to 19 years with multiple problem behavior like delinquency and/or addiction complemented by skipping school. Focus of the intervention is on the child and his family and peers. Theory of change is the social ecological theory of Bronfenbrenner.
Intensive Family Treatment (IFT)	5 to 7 months	Aim of the intervention is to reduce problem behavior of the child and parenting stress and to increase parenting skills and activate the social network of the family. The target group is families with children between 0 and 23 years with multiple and complex problems at different life domains. The families are stubborn and difficult to reach for the therapist. Focus of the intervention is on preventing out-of-home placement or reunification. Theory of change is working goal-driven.
Families First (FF)	1 month	The aim of the intervention is to reduce the problem behavior of the child, strengthen the competencies of the family, reducing parenting stress, increasing parenting skills and activating the social network of the family. The target group is families in an acute crisis, which is so serious that there is a risk of out of home placement of the child. The focus is on managing the crisis and assures the safety of the family members. The theory of change is based on the competence model.
Family Central (FC)	6 to 12 months	The aim of the intervention is to enhance the communication between family members and the collaboration between parents, reducing behavioral problems of the child(ren) and activate the social network of the family. The target group is youth between 0 and 18 years and their family who have serious parenting problems and problems in growing up. The families are stubborn and difficult to reach for the therapist. The focus is on the accumulation of problems and trying to find balance in these various domains of life. The theory of change is based on the competence model, working goal driven and working according to a system approach.

10 for the Future (10FF)	12 months	The aim of the intervention is to provide assistance on ten different areas of life: the household work, education, self-care, the development of the child, enhancing the social network, finance, parenting skills, daily routine, psychosocial and addiction problems and the coordination of care. The target group is families with complicated and multiple problems at different life domains in which there is a risk of out of home placement of the child. The focus is on a safe environment for the child(ren) and their parent(s). The theory of change is working goal driven.
Triple P 4-5	2 to 2.5 months	The aim of Triple P is to prevent children from serious behavioral and emotional problems by enhancing the parenting skills. The target group of Triple P 4 is parents with children who have severe behavioral problems and are in need of a targeted training in parenting skills. The target group of Triple P 5 is families with multiple behavioral problems combined with other family related problems. Level 5 is deployed when no or insufficient improvement is seen in the behavior of the child after level 4, because parenting problems are coherent with other problems (e.g. depression, stress or relational problems). The theory of change is the social learning theory, theory of behavioral change and the social information theory.

Table 2. Practice and program elements of the final version of the TIFMP

Practice elements	Step in which the element has been identified*
A) Assessment of problems	
Discussing the guiding question	1
Analysis of competencies	1
Analysis of network	1
Analysis of safety	1
Analysis of the family system	1
Analysis of leisure time	1
Analysis of school functioning	1
Analysis of daily routine	1
Analysis of individual problems	3
Using homework assignments to observe and register behavior	1
Using questionnaires	1
Discussing the results from questionnaires	1
Problem assessment	3
B) Planning and evaluation	
Designing the treatment plan	1
Designing working points or (behavioral) agreements	3
Evaluating working points or (behavioral) agreements	3
Evaluating the treatment plan	3
C) Working on change	
Working on recognizing, avoiding and coping with situations eliciting problem behavior, and help with removing these causes.	1
Working on thoughts	1
Working on emotions	1
Working on desired behavior	1
Working on undesired behavior	1
Working on communication and interaction	1
Working on authority relationships	1
Working on the daily routine	2
Working on safety	2
Working on generalization	3
D) Learning parenting skills	
Learning to apply reinforcements and positive consequences	1
Learning to apply mild punishments and negative consequences	1
Learning to monitor the child	2
Learning to show commitment to the child	2
Learning to handle conflicts	3
Learning to set rules	2
Learning to be responsive	3
Learning to perform social skills	3
Learning to collaborate	3
E) Helping with concrete needs	
Selfcare	3
Administration and financial control	1
Having contact with school and/or other authorities	1

Housekeeping	1
F) Activating the social network	
Mobilizing and expanding social support	1
Maintaining the social network	1
Stimulating leisure time	1
G) Activating the professional network	
Collaborating with other professionals and/or organizations working with the family	1
Coordinating the approach with other professionals and/or organizations working with the family	1
Referring to other organizations or authorities	1
Organizing respite care	3
H) Maintaining the practitioner-client collaboration	
Talking about expectations	3
Talking about resistance to care	3
Working on the motivation	1
Offering emotional support	3
Working on the quality of the relationship	3
Program elements	
Duration	3
Intensity	3
Supervision	3
Intervision	3
Consultation	3
24 hour reachability	3

*Step 1, draft version of the TIFMP; step 2, assessment of intervention manuals; step 3, field consultation.

Table 3. Reliability of the TIFMP: Percentages of agreement per intervention.

Intervention	% agreement
Parent Management Training Oregon (PMTO)	84.9%
Multisystemic Therapy (MST)	84.9%
Multidimensional Family Therapy (MDFT)	73.6%
Intensive Family Therapy (IFT)	90.6%
Families First (FF)	77.4%
Family Central (FC)	90.6%
10 for the Future (10FF)	84.9%
Triple P 4-5	88.7%

Abstract

Information is scarce on the distinct techniques delivered by the practitioner to promote positive outcomes (practice elements) and aspects of the intervention design and service delivery system (program elements) that make part of interventions for families with multiple problems (FMP). The aim of this study was to (1) develop a taxonomy to identify practice and program elements of interventions targeting FMP and (2) examine the interrater reliability of this taxonomy. The development procedure of the taxonomy consisted of five steps, in which different data sources were used (e.g., existing taxonomies, national guidelines for FMP, intervention manuals and field experts) to ensure the comprehensiveness of the taxonomy. The taxonomy of interventions for FMP (TIFMP) was developed and tested on eight FMP interventions that had at least moderate effect sizes (>0.5) in the Dutch context. It consisted of 53 practice elements in eight main categories (e.g., working on behavioral change and relieve tasks) and six program elements (e.g., duration and intensity). Raters had an average agreement for practice elements of 84.9%, ranging from 73.6% to 90.6% for the eight FMP interventions. A wide range of FMP interventions can be described reliably with the TIFMP that comprises practice and program elements of interventions. Using this taxonomy can provide more insight into the actual content of interventions and enables optimisation of care for FMP.

Keywords

Taxonomy, child and youth care, families with multiple problems, practice elements, program elements, reliability

Identifying practice and program elements of interventions for families with multiple problems: the development of a taxonomy

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Ethical approval

The Medical Ethics Committee of the University Medical Center Groningen in the Netherlands determined that ethical approval was not needed for this study (reference number METc2016.005 dated March 7, 2016).

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Conflict of interest

None.

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Highlights

- Interventions for families with multiple problems apply similar techniques.
- These interventions vary regarding the way in which they are delivered.
- We developed a taxonomy to reliably assess both aspects for eight interventions.
- Using this taxonomy provides insight into care for families with multiple problems.