Family Management Measure (FAMM) (prepared by Kathleen Knafl, PHD)

Title of Measure: Family Management Measure (FAMM)
Website:

- https://nursing.unc.edu/research/office-of-research-support-and-consultation/family-management-measure/
- FaMM website also available through a link on Dr. K. Knafl's faculty webpage https://nursing.unc.edu/people/kathleen-knafl/

Reference for original article(s) describing how the measure was developed and tested

- Knafl, K., Deatrick, J. A., Gallo, A., Dixon, J., Grey, M., Knafl, G., & O'Malley, J. (2011). Assessment of the psychometric properties of the Family Management Measure. *Journal of Pediatric Psychology*, *36*(5), 494–505. https://doi.org/10.1093/jpepsy/jsp034

Purpose/Background:

- **Purpose**: The FaMM was developed to measure how families manage caring for a child with a chronic condition/illness and the extent to which they incorporate condition management into everyday family life. Data from the FaMM will contribute to clinicians' and researchers' ability to understand more fully family functioning in the context of childhood chronic conditions. By measuring key aspects of family management, the FaMM will lead to a more precise understanding of factors that support or impede optimal child and family functioning. It is anticipated that the FaMM will be used in conjunction with other measures of family functioning and processes, and that it will further the development and testing of interventions and the comprehensive assessment of families' efforts to manage chronic conditions.
- **Background:** The conceptual framework underlying the FaMM is the Family Management Style Framework (FMSF) (Knafl & Deatrick, 1990; 2003; Knafl, Breitmayer, Gallo, & Zoeller, 1996). The FMSF evolved through a series of qualitative studies and integrative reviews. The FMSF incorporates the views of individual family members to conceptualize overall family response to a health-related condition. The framework is comprised of three major components: Definition of the Situation, Management Behaviors, and Perceived Consequences. Each component is composed of conceptual dimensions that reflect more specific aspects of the component. The eight dimensions (Child Identity, Illness View, Management Mindset, Parental Mutuality, Parenting Philosophy, Management Approach, Family Focus, and Future Expectations) were derived both from the developers' research and the literature (Knafl & Deatrick, 1990; 2003; Knafl et al. 1996). Although these dimensions are theoretically distinct, they would be expected to be associated with each other to some degree. The 2003 article by Knafl and Deatrick provides a detailed description of the conceptual dimensions of the FMSF and was used to develop FaMM items. A slightly revised version of the framework has since been published (Knafl, Deatrick, & Havill, 2012).

  Following the development of an initial set of items, further development efforts included review of items by experts in family nursing research as well as parents of children with varied chronic conditions (Knafl et al., 2007). Based on input from experts and parents, a 65-item preliminary version of the FaMM was developed. Final testing of the FaMM entailed telephone interviews with a sample of 579 parents from 417 families of children 3 – 19 years old with a wide array of chronic physical conditions (Knafl et al., 2011). Parents responded to the 65-item FaMM and to

measures of family functioning (Family Assessment Device), child behavior (Eyberg Child Behavior Inventory), child functional status (Functional Status II), and social desirability (Marlowe-Crowne). Analyses included exploratory and confirmatory factor analysis, reliability assessment, and hypothesis testing to evaluate construct validity.

The FaMM is comprised of 53 items with 45 items for all parents and eight additional items for partnered parents only. Items are scored from 1 to 5, meaning strongly disagree to strongly agree. There are five summated scales for all parents measuring the dimensions of Child's Daily Life, Condition Management Ability, Condition Management Effort, Family Life Difficulty, and View of Condition Impact as well as a sixth scale only for partnered parents measuring the dimension of Parental Mutuality. Higher scores on three of the scales (Child's Daily Life, Condition Management Ability, Parental Mutuality) indicate greater ease in managing the child's condition. Higher scores on the other three scales (Condition Management Effort, Family Life Difficulty, View of Condition Impact) indicate greater difficulty in managing the condition.

Psychometrics:

- Internal consistency reliability (ICR) for the six FaMM scales, adjusted for inter-parental correlation, ranged from .72 to .90 for mothers and .73 to .91 for fathers. Test-retest reliability was based on responses from 65 parents retested within 2-4 weeks and adjusted for inter-parental correlation. It ranged from .71 to .94. In the instrument development study cited above support for the construct validity of the FaMM came from significant correlations between each of the scales and each of the related measures of family functioning (Family Assessment Device), child functional status (Functional Status II), and child behavior (Eyberg Child Behavior Inventory), with directions of relationships as expected. More detailed information about the psychometrics of the FaMM is available on the FaMM website.

Scoring Procedures:

- The FaMM consists of six scales, with each scale scored separately. THERE IS NO SUMMARY SCORE. Using cluster analysis of the FaMM scales it is possible to identify patterns of family management. Detailed scoring instructions for each FaMM scale, including a link to an Excel file scoring template, are available on the FaMM website.
- Although the FaMM was developed as six separate scales, we are aware of one effort to develop latent constructs based on combined scales (Easy Management and Challenging Management) for use in structural equation modeling (see Zhang, et al., 2013 below).

Norms/or Comparative Data: Not Available

Populations the measure has been used with:

- Asthma (US)
- Atopic dermatitis (Korea)
- Autism (US)
- Brain tumor survivors (US)
- Cancer survivors – off treatment (Korea, Portugal, US)
- Cancer (Korea, US)
- Cerebral palsy (Thailand)
- Chronic allergic conditions (China)

- Chronic kidney disease (China, Netherlands, UK)
- Congenital adrenal hyperplasia (US)
- Down syndrome (Brazil, Central America, Ireland, Japan, Korea, Italy, Netherlands, Portugal, South America, Taiwan, US)
- Epilepsy (Korea)
- Feeding disorders (US)
- Kidney disease (Netherlands)
- Klinefelter syndrome (US)
- Solid organ transplant (US)
- Thalassemia (Thailand)
- Traumatic brain injury (Australia)
- Type 1 diabetes (Australia, US)
- Multiple conditions included in sample (Australia, Brazil, China, Korea, Portugal, Spain, US)
- **Languages the measure is available in:**

The following publications report information on adapting or translating the FaMM for use with non-English samples

- Brazil
    - Bousso, R. S., Ichikawa, C. R. D., Misko, M. D., dos Santos, M. R., Baliza, M. F., Mendes-Castillo, A. M. C., & Bianchi, E. R. F. (2017). Validation of Family Management Measure for the Brazilian culture. *Revista Brasileira de Enfermagem*, 70(6), 1151-1158. doi:10.1590/0034-7167-2016-0326
    - Ichikawa, C. R. F., Bousso, R. S., Misko, M. D., Mendes-Castillo, A. M. C., Bianchi, E. R. F., & Damião, E. B. C. (2014). Cultural adaptation of the Family Management Measure among families of children and adolescents with chronic diseases. *Revista Latino-Americana de Enfermagem*, 22(1), 115-122. doi:10.1590/0104-1169.2978.2379
- China
    - Zhang, Y., & Wei, M. (2009). Validity and reliability of the Chinese version of Family Management Measure. *Chinese Journal of Practicing Nursing*, 25(5B), 19–22. doi:10.3760/cma.j.issn.1672-7088.2009.05.050
- Iran
    - Mehmannavazan, M., Hosseini, M., Vartanoosian, J., Matbouei, M., Nasiri, M., & Vasli, P. (2018). Translation, cultural adaptation and preliminary psychometric evaluation of the “Family Management Measure” among Iranian families with a child with a chronic disease. *Electronic Physician, 10*(6), 6942.
- Korea
    - Choi, H., & Van Riper, M. (2014). Maternal perceptions of sibling adaptation in Korean families of children with Down syndrome. *Journal of Intellectual Disability Research*, 58(10), 962-977. https://doi.org/10.1111/jir.12126
        - Kim, D. H., & Im, Y. J. (2013). Validity and Reliability of Korean Version of the Family Management Measure (Korean FaMM) for Families with Children having Chronic Illness. *Journal of Korean Academy of Nursing,* 43(1), 123-132. doi:10.4040/jkan.2013.43.1.123

- Netherlands
    - Geense, W. W., Gaal, B. V., Knoll, J. L., Maas, N. M., Kok, G., Cornelissen, E. A. M., & Nijhuis-van der Sanden, M. W. G. (2018). Effect and process evaluation of e-powered parents, a web-based support program for parents of children with a chronic kidney disease: Feasibility randomized controlled trial. *Journal of Medical Internet Research*, 20(8), e245. https://doi.org/10.2196/jmir.9547
- Portugal
    - Mendes, T. P., Crespo, C. A. M., & Austin, J. K. (2017). The psychological costs of comparisons: Parents' social comparison moderates the links between family management of epilepsy and children's outcomes. *Epilepsy & Behavior*, 75, 42-49. https://doi.org/10.1016/j.yebeh.2017.07.017
- Taiwan
    - Hsiao, C. Y., & Van Riper, M. (2011). Individual and family adaptation in Taiwanese families living with Down syndrome. *Journal of Family Nursing,* 17(2), 182-201. https://doi.org/10.1177/1074840711405205
- Multiple non-English versions used in study
    - Van Riper, M., Knafl, G., Barbieri-Figueiredo, M. D. C., Caples, M., Choi, H., de Graaf, G., Duarte, E. D., Honda, J., Marta, E., Phetrasuwan, S., Alfieri, S., Angelo, M., Deoisres, W., Fleming, L., Dos Santos, A. S., Rocha da Silva, M. J., Skelton, B., van der Veek, S., & Knafl, K. A. (2020). Measurement of family management in families of individuals with Down syndrome: A cross-cultural investigation. *Journal of Family Nursing*, 27,8-22.https://doi.org/10.1177/1074840720975167 (Data from families in Brazil, the Netherlands, Italy, Japan, Korea, Portugal, Spain, Thailand, and multiple countries from Central and South America)
- **Strengths and Limitations of the Measure**
    - **Strengths**
        - The FaMM is applicable to multiple chronic childhood conditions. Although the measure was developed based on a sample of children with non-life-threatening physical conditions, there is evidence based on published research reports that it is applicable to a wider array of conditions than included in the original sample as reflected in the above list.
        - Because it is comprised of six separate scales, the FaMM gives the user the flexibility to use all or a subset of scales.
        - Although the measure was developed in the US, it has been translated into multiple language and used in multiple countries.
    - **Limitations**
        - Some investigators have reported low internal consistency reliabilities for certain scales in their sample. We advise potential users to review publications reporting FaMM results relevant to their intended sample to determine the appropriateness of the FaMM scales.
        - The items in the Mutuality scale are completed only by partnered parents, which typically leads to a smaller sample size for analyses of the Mutuality results.

References for articles by IFNA members and others who have used the measure

The following manuscript includes a detailed summary of research application of the FaMM across 45 studies, including study purpose, country where data were collected, sample, use (e.g., independent variable, dependent variable, mediator) and internal consistency reliability scores.

Knafl KA, Deatrick JA, Gallo AM, Skelton B. (2021). Tracing the use of the Family Management Framework and measure: A scoping Review. *Journal of Family Nursing*, 27(2), 87-106. doi: 10.1177/1074840721994331.

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- Choi H. (2015). Adaptation in families of children with Down syndrome: A mixed-methods design. *Journal of Korean Academy of Nursing*, *45*(4), 501–512. https://doi.org/10.4040/jkan.2015.45.4.501
- Choi, H., & Van Riper, M. (2014). Maternal perceptions of sibling adaptation in Korean families of children with Down syndrome. *Journal of Intellectual Disability Research: JIDR*, *58*(10), 962–977. https://doi.org/10.1111/jir.12126
- Close, S., Sadler, L., & Grey, M. (2016). In the Dark: Challenges of Caring for Sons with Klinefelter Syndrome. *Journal of Pediatric Nursing*, *31*(1), 11–20. https://doi.org/10.1016/j.pedn.2015.05.002
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- Deatrick, J. A., Hobbie, W., Ogle, S., Fisher, M. J., Barakat, L., Hardie, T., Reilly, M., Li, Y., & Ginsberg, J. P. (2014). Competence in caregivers of adolescent and young adult childhood brain tumor survivors. *Health Psychology: Official journal of the Division of Health Psychology, American Psychological Association*, *33*(10), 1103–1112. https://doi.org/10.1037/a0033756
- Fleming, L., Knafl, K., Knafl, G., & Van Riper, M. (2017). Parental management of adrenal crisis in children with congenital adrenal hyperplasia. *Journal for Specialists in Pediatric Nursing:JSPN, 22*(4), 10.1111/jspn.12190. https://doi.org/10.1111/jspn.12190
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Articles about FaMM development and validation measures

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