

Introduction: A family systems approach to promote maternal, child and adolescent nutrition

Judi Aubel¹  | Stephanie L. Martin^{2,3}  | Kenda Cunningham^{4,5} 

¹Grandmother Project—Change through Culture, Rome, Italy

²Department of Nutrition, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA

³Carolina Population Center, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA

⁴Helen Keller International, New York, New York, USA

⁵Department of Population Health, Faculty of Epidemiology, London School of Hygiene and Tropical Medicine, London, England

Correspondence

Judi Aubel, Grandmother Project—Change through Culture, Via Carlo Conti Rossini 115, Rome 00147, Italy.

Email: judiaubel@grandmotherproject.org

Abstract

In all cultures, women and children are embedded in *family systems* that determine roles, relationships, patterns of communication and authority between family members. Especially in non-western societies, maternal and child nutrition practices are determined not only by the biological parents but also by other influential family members. Most maternal and child nutrition research and interventions do not consider the constellation of family roles and influence on women and children and continue to focus on the mother–child dyad and individual knowledge, attitudes and practices. There is growing agreement on the need to adopt an ecological framework to address public health issues, including those dealing with maternal and child nutrition. This special issue presents examples of research from a variety of settings that employed an ecological, family systems approach either to investigate maternal, child or adolescent nutrition issues or to design interventions that engaged various actors within family settings. These 11 articles contribute to a growing body of evidence supporting the relevance of a wider family systems perspective for nutrition research and interventions. Key themes across studies include the limitations of using a nuclear family model for research and intervention design, the need for formative research that comprehensively explores family systems, increasing recognition of the extensive involvement and support provided by grandmothers, and the importance of engaging men in culturally appropriate ways based on community dialogue and women's perspectives. Future maternal and child nutrition research and interventions can be strengthened by systems thinking that acknowledges that individuals are situated within family and community systems.

1 | INTRODUCTION

In public health and specifically in maternal and child nutrition (MCN) there is growing recognition of the need for a holistic view of women and children within family systems in research and in interventions. This special issue provides examples of research that employed a systems approach either to investigate MCN issues within various social contexts and/or to design interventions to address MCN issues by involving various family members.

2 | EVOLUTION OF MATERNAL AND CHILD NUTRITION RESEARCH

The scope and methodologies used in research on human nutrition have evolved over time and continue to do so. In a brief review of the historical evolution in nutrition research, Hoffman (2003) describes the shift from reductionist to more holistic thinking over time. She summarises this evolution from the early reductionist research on individual dietary constituents and their relationship to

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biological markers, the later interest in the nutritional composition of foods, and followed by the analysis of the diets of different human populations including issues of seasonal and geographic access to different foods. Since the 1940s there has been extensive research and interventions focused primarily on the mother–child dyad and the nutritional status and practices of women with their infants and young children. The reductionist focus on the dyad in nutrition research and interventions has been supported by conceptual traditions in epidemiology and psychology that focus on studying and influencing individuals with limited attention to the social context in which they are embedded. Hoffman calls for ‘integrating the sciences of nutrition with holistic thinking’ (Hoffman, 2003, p. 515S) rooted in other disciplines.

Today there is increasing recognition that the nutritional status of any age group is influenced by a complex set of factors. Creating an enabling environment for nutritional well-being requires consideration of various determining factors at the policy, health system, community and family levels. In the past, in contrast to the other levels of influence, much less attention has been given to understanding the family context, which nursing scholar Denham (2003) refers to as the *family microsystem*.

To promote adoption of optimal nutrition behaviours, nutrition education has been widely used, primarily targeting the mother–child dyad and based on the linear assumption that increased knowledge of priority nutrition practices leads to changes in behaviour. This reflects the knowledge, attitudes and practices (KAP) model that is still widely used in MCN and that orients both the focus of formative research—to understand nutrition-related individual behaviour and the orientation of MCN interventions—to change individual KAP. Results of interventions based on this individual-centric approach, often targeting only mothers, have often been disappointing and there is increased recognition that women’s behaviour is affected not only by cognitive factors, but also by a multiplicity of contextual elements within family and community systems (Dickin et al., 2021); among the salient factors that influence women’s ability to translate new knowledge into new behaviours are the attitudes and authority of other family members (Skordis et al., 2019). In a review of behaviour change interventions, Aboud and Singla (2012) conclude that family members can either support or hinder behaviour change. At the wider community level, there is increased recognition that collective social norms, embedded in culture and tradition, have a powerful influence on individual attitudes and behaviour of mothers and of other family members (Dickin et al., 2021).

Compared to many other disciplines, public health has been slow to embrace systems thinking (Glass & McAtee, 2006; Rutter et al., 2017). Historically, from the 1970s or earlier, there has been a paradigm shift from linear to systems thinking, in many fields including anthropology (Goodenough, 1963); human development (Bronfenbrenner, 1979); community development (Cary, 1975); social work (Hartman & Laird, 1983); nursing (Denham, 2003); community psychology (Kelly, 2007); and health promotion (Stokols, 1996). All of these fields have adopted systems thinking and view individuals as embedded in family and community systems.

Key messages

- In nonwestern contexts in Africa, Asia and Latin America, extended family members, beyond the biological parents, often have a strong influence on maternal and child nutrition (MCN) attitudes and practices that affect the mother–child dyad.
- Family structure varies considerably, in both western and non-western contexts, and the prevalent nuclear family construct, of western origin, is inadequate for understanding the constellation of actors who influence MCN norms and practices in different settings.
- Formative research in specific cultural contexts is of critical importance to understand the roles, relationships, patterns of communication and authority that exist within family systems in which women and children are embedded.
- MCN research and interventions should adopt an ecological, or systems, view of families in order to adequately understand and address the multiple actors and other determinants of MCN within family contexts.

In contrast, public health and nutrition efforts, supported by behavioural scientists, have focused primarily on individuals in specific risks groups, with limited attention to the social environment in which those groups are embedded. Rutter et al. (2017) assert that there is an urgent need in public health to shift from linear to systems models in order to more effectively address health problems and inequalities.

In the early 1990s, when donors in the North were supporting the child survival revolution in the South, a group of visionary social scientists involved in global health called for more attention to be given to the determinants of child health and nutrition at the household level. And they proposed a systemic view of the household, or micro level, in which women and children are embedded in order to understand intra-household dynamics. With their Household Production of Health (HPH) framework they contended that the major determinants of child health emanate from within households, rather than from health services, and that efforts to improve MCHN should be grounded in a comprehensive understanding of intra-household roles, dynamics and decision-making (Berman et al., 1994). From their systemic perspective, the HPH advocates identified three decisive characteristics of households that influence child health and nutrition: various categories of household actors are involved in caregiving; the roles of men and women are gender-specific; and child health and nutrition practices are culturally prescribed. For many years, the concerns of the HPH proponents, calling for a more culturally grounded and systemic view of families in which women and children are embedded, were largely ignored.

The position of the HPH advocates are reiterated by Denham (2003), who asserts that community health and nutrition interventions

should adopt an ecological framework that builds on the characteristics of family systems in specific cultural contexts. She argues that a precursor to development of a community programme should be an investigation of the *family microsystem* in the targeted cultural context including how it is structured and what social resources it comprises. Both Denham's work and that of the HPH proponents support the need to look beyond the mother-child dyad to identify other actors in the social environment who influence the nutritional practices and status of the targeted risk groups. There is now extensive discussion of the need for adoption of a wider socio-ecological framework, however, Dickin et al. (2021) conclude that although the discourse has shifted, this framework is yet to be widely operationalised in MCN research and interventions.

3 | FAMILY SYSTEMS

In all cultures women and children are embedded in *family systems* which determine roles, relationships, patterns of communication and authority among family members. Although family structure and dynamics differ between cultures, the priority function of all families is to provide for the growth and development of its members and the survival of a society depends on this function (Anderson et al., 2008). The family system construct has roots in several disciplines namely child development (Cox & Paley, 1997) nursing (Denham, 2003), family therapy (Bowen (1978) and psychiatry (Ackerman, 1959). We believe that it is an essential concept to orient all public health work dealing with health and nutrition.

A *family system* has been defined by nursing scholars as 'a system of interacting persons who live together over time developing patterns of kinship and who hold specific role relationships to each other, characterized by commitment and attachment, and who have economic, emotional, and physical obligations to each other' (McGowan & Artinian, 1997, p. 130). Family configuration varies but all family systems share certain fundamental characteristics: Family members are all interconnected; different family members play different roles related to different aspects of family life; there are patterns of communication and decision-making between family members related to age and gender; and there are rules, or norms, that define acceptable and unacceptable behaviour that all family members are expected to follow (Anderson et al., 2008).

Understanding the influence of family systems on MCN depends very much on how the family is perceived. Anthropologists critique the assumption of universality of family structure, and the tendency to take the nuclear family, as the norm (Kagawa-Singer et al., 2014). Airhihenbuwa (1995) contends that the nuclear family is not the most prevalent pattern of family organisation around the world. Cultures have been categorised on a continuum from *individualist* to *collectivist* and 88% of all societies are defined as collectivist (Henrich et al., 2010). A key feature of more collectivist cultures is the extended, multi-generational family. Anthropologist, Hofstede (1984) explained that in more collectivist cultures 'from birth onwards people are integrated into strong, cohesive groups, often the extended family,

which continue protecting them in exchange for unquestioning loyalty'.

Most MCN research and interventions in low- and middle-income countries are not based on in-depth analysis of family systems (Martin, McCann, et al., 2021) and often assume universality of the nuclear family structure. This assumption is based in part on the fact that the household is taken as the unit of analysis and also on the erroneous assumption that *household* and *family* are synonymous. In collectivist societies there is a marked difference between the *household*, which connotes a place of residence and the *family* which indicates kinship relationships and interdependency (Bender, 1967). An increasing number of studies conducted in contexts where extended families prevail, reveal that caregiving strategies for women and children are shared by those who reside within the physical household along with non-resident family members (Muraya et al., 2021).

There is increasing criticism of the predominant Euro-American conceptual framing of health and social issues based on the structure and values of western societies that ignore the structure and values of non-western societies from scholars in Asia (Kagitcibasi, 1996; Kim, 2009; Kumar et al., 2015), Africa (Airhihenbuwa, 1995; Ebersöhn et al., 2018) and Latin America (Giraldo-Alzate, 2016). The need for greater attention to the cultural specificities of the societies for which public health programmes are designed, is spelled out in a recent WHO publication, *Culture Matters* (Napier et al., 2017). The authors of the WHO paper boldly assert that neglecting culture in public health programmes is the single largest barrier to improving human health worldwide.

Although all families share certain characteristics, there are distinct differences between the structure and dynamics of nuclear and extended families. In collectivist cultures, various extended family members are involved in both MCN advising and care giving: Childcare is multi-generational and includes not only a child's biological parents; there is a hierarchy of experience and authority related to MCHN issues; older more experienced family members, especially older women, are responsible for transmitting priority norms and practices to the younger generations; younger women are expected to follow the advice of older, more experienced ones; young women rarely make decisions on their own concerning the well-being of their children; with gender specificity of roles, men play less of a role in MCHN issues; decision-making is collective and those with more experience have more authority; and it is very difficult for younger family members to reject the advice of older ones (Sudarkasa, 1980).

4 | ARTICLES IN THIS ISSUE

This special issue contributes to the increasing recognition of the need for a wider, family systems view of both MCN and adolescent nutrition. First, we review examples of formative research with more systemic views of families and second, examples of interventions that engaged various family members.

Several studies from Africa, Asia and Latin America provide insight into the roles and influence of various family members on MCN in different urban and rural contexts.

Concha and Jovchelovitch (2021) present formative research from urban Cali, Colombia based on a family systems frame that aimed to understand the family support network around pregnant and breastfeeding women related to both nutritional and psychological needs. Their research identified the *chains of support* to mothers and infants in an economically precarious context where fathers are absent in most households. The main finding of the research is that 'grandmothers play a central role in decision-making and in enabling a holistic support system for the dyad'. They refer to grandmothers as a *scaffolding* that supports maternal nutrition, breastfeeding, infant feeding, cultural practices, caregiving and maternal mental health. The authors underline the relevance of a family systems approach to investigation of MCN issues in Colombian contexts, where many families are mono-parental, where men are generally not involved in MCHN issues and where extended family members, especially grandmothers, provide support. Beyond the informational support provided by the grandmothers, or *mamitas*, the authors strongly emphasise the importance of the emotional support they provide through their proximity, experience and commitment to the dyad. Critiquing the nuclear family model in MCN programmes, they assert that a family systems framework is more relevant in contexts where the family network and intergenerational family relationships are strong, supported by collectivist cultural values.

In rural Nepal, Morrison et al. (2021) conducted formative research on maternal anaemia based on a socio-ecological framework, inspired by Bronfenbrenner's seminal construct (1977), to investigate factors at the individual, family and community levels that affect antenatal visits, iron-folic acid supplement intake and pregnant women's diet. The research aimed to understand the roles and influence of family actors, specifically husbands and mothers-in-law, and the gender and intergenerational power dynamics between them and with the pregnant wives. The researchers concluded that men are not directly engaged in maternal health, that mothers-in-law are central and full-time advisors and caregivers to pregnant women and that young wives have limited autonomy and are expected to follow the wishes and instructions of their husbands and mothers-in-law. The research clearly reveals the power differential between mothers-in-law and young wives. A limitation of many other studies is that gender is examined only in binary terms of male and female roles or knowledge. Morrison et al. (2021) emphasise the need to understand 'the intersection of gender with intergenerational hierarchies' to inform intervention design. They conclude that efforts to decrease maternal anaemia should not only target and provide information to pregnant women, and rather should involve other family members, especially powerful mothers-in-law and men. They present two conclusions that are relevant to other contexts: First, interventions should build on the existing roles of family members; and second, programmes should be developed in consultation with community members so that they do not clash with valued cultural patterns.

Interested in household composition and child nutrition, innovative research in Ethiopia used national DHS data from all urban and rural areas of the country to determine the relationship between the presence of non-maternal women in households and under-five nutritional outcomes (Usman et al., 2021). These researchers point out that most primary inputs that contribute to the household production of child health and nutrition require maternal time, for example, fetching water and firewood, cooking, hygiene, childcare, health care-seeking. They also note that in Ethiopia, as in other African societies, many children live in multi-generational families where grandmothers and other older women are present and involved in caring for young children (Ntshebe et al., 2019). They used multivariate regression analysis to test whether young children living in households with their mothers and other non-maternal adult female kin or non-kin members (AFHM) have better nutritional status. Their empirical findings suggest that 'having additional AFHM is positively and strongly associated with improved height-for-age and weight-for-age and a lower prevalence of severe stunting among children 6–59 months' (Usman et al., 2021, p.7). They conclude that the presence of AFHM can relieve mothers of certain domestic tasks and thereby give them more time to invest in childcare and other health and nutrition promoting activities with their young children.

In rural Cambodia, in a context of economic migration of the working age population, Schneiders et al. (2021) studied the role and impact of grandparents on child nutrition. In an area where *skip-generation households* are prevalent, that is, where the biological parents are not present, and inspired by the HPH framework (Berman et al., 1994), research in Cambodia investigated the gendered roles of grandparents. Other studies have examined the role of grandparents while failing to analyse the gender specificity of their roles (Sadruddin et al., 2019). Schneiders et al. (2021) found that, similar to younger parents, grandparenting roles are gender specific. Grandmothers have primary responsibility for domestic duties including cooking, feeding young children, cleaning and caregiving of grandchildren whereas grandfathers are involved in income generation and 'heavy work' in farming and in the home. Historically, grandmothers have participated in childcare, supporting their adult children, but their role has been intensified with the migration of one or both parents. The authors echo the position of the HPH advocates that intra-household roles should be understood in order to acknowledge the 'largely invisible work of grandparent caregivers' (p. 9).

With growing interest in adolescent nutrition, Nutrition International recently undertook a review of the literature on this topic (2020). The review concludes that adolescent nutrition should be approached through a family systems lens in order to understand the social environment in which adolescent girls are embedded and to inform design of interventions to support them. Nutrition International researchers Pike et al. (2021) conducted qualitative research in both urban and rural Bangladesh on the spheres of influence and decision-making patterns related to adolescent pregnant girls. To understand the roles and influence on adolescents from within family systems, in-depth interviews were conducted with pregnant girls, their husbands, maternal and paternal grandparents and other family

members. Key research findings reveal: collective family decision-making on all issues related to pregnancies with mothers-in-law playing the leading decision-making role, and with adolescent girls having very little input; adolescent girls' dependency on and appreciation of advice from older female family members, primarily their mothers-in-law; and the limited role of fathers and fathers-in-law with their support consisting primarily of finances for antenatal visits and nutritional supplements. They conclude that future interventions dealing with adolescent girls' nutrition should intentionally involve mothers and mothers-in-law. Also, they contend that programmes should identify culturally sensitive approaches that do not trigger community rejection.

Several studies in this special issue focus on engaging fathers in maternal and child nutrition. Through their secondary data analysis, Drysdale et al. (2021) used structural equation modelling to examine the relationship between father involvement, maternal depressive symptoms, low birthweight, and exclusive breastfeeding in Soweto, South Africa. Father involvement after pregnancy was positively associated with women's postnatal mental health but was not associated with birthweight or breastfeeding outcomes. Most women in the study did not live with their child's biological father and few fathers provided support. Further, it was common for mothers to report that someone other than the father was the main source of help with the baby. Other research in South Africa Erze et al. (2021) found that fathers had limited involvement in child nutrition, but they wanted to be more involved. Based on the findings of Drysdale et al, the authors suggest ways to increase father involvement through efforts at the individual, couple and structural levels. Consistent with other articles in this issue, their results also highlight the need for a holistic view of women's needs and sources of support and explore the role and influence of other family members.

Atkinson et al. (2021) conducted an online survey with men, primarily from the UK and US, to examine the associations between fathers' attitudes, involvement, and infant feeding. Their research was influenced by Bowen's family systems theory (Bowen, 1978). Through their quantitative analysis, they found that fathers' equitable attitudes towards parenting were positively associated with attitudes towards breastfeeding and involvement with their infant. Although paternal involvement was not associated with infant feeding practices, father's attitudes about infant feeding were significantly associated with breastfeeding. Similar to other articles in this special issue, fathers reported wanting to participate in childcare and to develop a strong bond with their infant. The authors note that fathers with more equitable parenting attitudes were influenced by their partner or other family members, highlighting the importance of family members' influence and the value of family systems theory for designing interventions.

Several articles in this special issue report on results from intervention research. To assess the acceptability and feasibility of engaging fathers in complementary feeding in rural Tanzania for the Address Stunting Early in Tanzania (ASTUTE) project, Martin, Matare et al. (2021) conducted trials of improved practices. Through their qualitative analysis they found that, after receiving targeted

counselling, fathers reported increased involvement in complementary feeding. They were also pleased to be more involved in infant feeding, despite traditional gender roles. Mothers and fathers reported improved communication and cooperation with their spouses, and fathers felt closer to their children. Improved relationships have been reported in intervention research to engage fathers in other contexts (Bezner Kerr et al., 2016; Doyle et al., 2014). They analysed data from mothers and fathers individually and as couples to understand their individual experiences as well as compare their responses. Considering how to collect, analyse and compare data from family members, as well as how to address inconsistencies, is important when designing research with multiple family members. They suggested future research should use a family systems framework and include grandmothers as well as fathers.

In Nepal, Cunningham et al. (2021) describe exposure to the Suaahara II project, which expanded their activities to include all family members and not only the mother-child dyad. Suaahara II interventions include interpersonal communication and mass media. Their analysis examined associations between maternal and male household head exposure to Suaahara II interventions and infant feeding practices. They found that whereas mothers' exposure to the interventions was positively associated with minimum dietary diversity, minimum acceptable diet and sick child feeding, father exposure was associated only with sick child feeding. This suggests that fathers have specific roles related to childcare and feeding and may be more involved when the child is sick and decisions need to be made, compared to the day-to-day decisions around infant feeding. The authors offer several suggestions for future research: need for precise measures of intervention exposure, measuring intermediary outcomes that are targets of interventions based on a family systems approach, which intervention components are most effective for involving family members, and how to avoid unintended negative consequences. The need to monitor for unintended negative consequences when engaging others in domains that are typically women's has been noted elsewhere (Yourkavitch et al., 2017).

In rural western Kenya, Thuita et al. (2021) explored fathers and grandmothers experiences participating in peer dialogue groups through a qualitative process evaluation. Fathers and grandmothers were nominated to serve as peer educators and received training in nutrition and facilitation skills. Separate father and grandmother groups met biweekly. After 5 months of implementation, fathers and grandmothers reported improved relationships with mothers, sharing information with family members and others, and changes in their own behaviour. Participants reported increased social cohesion and described a supportive environment within their groups. Similar to Tanzania, fathers reported increased involvement in childcare and feeding, even though it was counter to traditional gender roles, and fathers and grandmothers described improved relationships with mothers. The authors suggested future interventions should bring all family members together for activities on a regular basis (Bezner Kerr et al., 2016) and plan for group sustainability and potential ways to integrate income generating

activities into group activities at the outset. Other articles in this special issue called for more process evaluations to explore intermediate factors that influence adoption of recommended behaviours.

A scoping review to identify interventions that engaged family members in maternal and child nutrition reported a substantial increase in the number of studies about interventions to engage family in peer reviewed literature since 2010 (Martin, McCann, et al., 2021). The authors identified 63 unique nutrition-specific and nutrition-sensitive interventions or projects that sought to engage fathers, grandmothers, or other family members in low- and middle-income countries. Most studies used community mobilisation, facility or community-based groups, and home visits to engage family members. Most studies were in sub-Saharan Africa or Asia, there were few studies from the Middle East and North Africa or Latin America and the Caribbean. The importance of formative research to develop appropriate and acceptable interventions is well documented (Bentley et al., 2014), yet only one third of the included studies reported conducting formative research. Similarly, around one third of the included studies reported using a theory to inform intervention design. The authors discussed the limitation of interventions that address only one family member and the need to consider family structure and the roles of all family members to inform intervention design. The authors suggest that future research should collect data from all family members, yet only about half of the studies reviewed collected data only from mothers.

5 | KEY THEMES ACROSS ARTICLES

Based on the 11 articles in this special issue, we identified several key themes that reflect priority issues and concepts related to MCN within family systems that have been given relatively limited attention until now. For each of these themes we summarise our findings and draw conclusions for future research and/or interventions.

5.1 | Inadequacy of nuclear family model

In many MCN studies and interventions it is assumed that the family is nuclear, consisting only of the biological parents and their offspring. The relevance of the nuclear family model, especially in more collectivist cultures, is increasingly questioned (Emmott et al., 2021; Sear, 2016). The articles in this special issue provide evidence that in both rural and urban contexts the nuclear family model does not reflect the most common family structure. The research in this collection of papers and many other studies clearly reveal that family composition varies greatly, multi-generational households are common and in many cases fathers are absent. Especially in more collectivist cultures, the use of the nuclear family model limits our understanding of the constellation of roles and influence within family systems.

5.2 | Importance of formative research

There is wide agreement that intervention design should be preceded by formative research, however, a scoping review reported that in most cases it is not carried out (Martin, McCann, et al., 2021). Furthermore, when formative investigation is conducted, most often the focus is primarily on KAP of risk groups, and only sometimes involves other family members. The papers in this issue provide some good examples of formative research based on a family systems framework in which information was collected not only on individual KAP from risk groups but also on the roles, relationships, decision-making patterns, gender and power dynamics between family actors. There is a need for new methodologies to effectively assess multiple facets of family systems. With that purpose in mind, an initial resource for investigating family roles and influence related to nutrition, is presented in *Focus on Family and Culture* (Aubel & Rychtarik, 2015) a participatory methodology for use at community level.

5.3 | Role of men in MCN

Most of the research included in this issue and numerous other studies in non-western contexts report that roles of family members are gender-specific and that men are generally not directly involved either as caregivers of young children nor as advisors to pregnant or breastfeeding women (Aubel, 2012). Across cultural contexts men are expected to play supportive roles especially related to financial and logistical support, particularly at times of great need, for example, when a child is very ill. Various programmes have engaged men to encourage their involvement in direct caregiving to women and children but have demonstrated mixed results. Several studies in this issue show that engaging men can strengthen their relationships and social support to their partners, as found in some earlier studies (Mukuria et al., 2016). However, a number of other studies reveal that some women disapprove of greater men's involvement in what are considered to be women's activities, fearful that this may allow men to exercise control within women's spaces and infringe on their autonomy (Ganle et al., 2016; Iganus et al., 2015). We argue that programmes should build on existing cultural values and roles, respect women's preferences and expand men's roles based on dialogue and consensus building with women in targeted contexts.

5.4 | Role of grandmothers in MCN

Most of the research included in this issue identifies grandmothers as key family level advisors and caregivers both to women and young children, echoing findings of extensive evidence of their role in societies across the Global South (Aubel, 2012; Sear, 2021). Several studies in this issue emphasise that although some of the KAP of grandmothers, and of other older, experienced women within extended families may be ineffectual, the support they provide to both pregnant women and new mothers is of critical importance. In many contexts,

where extended families are prevalent, grandmothers have authority and are actively involved in advising and caregiving, but MCN programme designers often view them as an obstacle and do not involve them. Relatively few interventions have intentionally engaged grandmothers and the results have been mixed. In several recent cases, grandmother inclusion has contributed to positive MCN outcomes in programmes in Sierra Leone (Aidam et al., 2020), Malawi (Bezner Kerr et al., 2016) and Kenya (Mukuria et al., 2016). We contend that from a family systems perspective, at the outset, all MCN programmes should investigate the role of all key family members, including grandmothers. Extensive evidence of grandmothers' role and influence on all facets of MCHN in multiple cultural settings supports the assertion that they should be intentionally involved in MCN interventions. Although some of grandmothers' advice may be erroneous, in light of their influence on decisions around MCN, it is advantageous for them to be involved in programmes in order to strengthen their KAP.

5.5 | Family systems framework for MCN

Given that women and children in all societies belong to families, it is noteworthy that in public health nutrition relatively little attention has been given to understanding the family systems in which they are embedded to inform policies and programmes. From human nutrition's reductionist and linear origins, this special issue supports the current trend towards a more socio-ecological, or systemic, perspective on maternal, child and adolescent nutrition. From an evolutionary perspective, anthropologist Sear (2021) states that it is now widely recognised that women across cultures and throughout human history have depended on *cooperative childrearing*, through the support of various kin and non-kin, to themselves and their children. Especially in more collectivist cultures, where the influence of the extended family is great, understanding the roles, relationships, strategies and constraints within family systems is essential in efforts to strengthen cooperative childrearing strategies to ensure optimal MCN.

AUTHOR CONTRIBUTIONS

JA, KC and SM participated in reviewing and selecting manuscripts for this special issue. JA drafted this introductory chapter with substantive inputs from SM. SM and KC reviewed and revised the final draft and approved the final version for submission.

ORCID

Judi Aubel  <https://orcid.org/0000-0003-2304-6100>

Stephanie L. Martin  <https://orcid.org/0000-0002-0378-802X>

Kenda Cunningham  <https://orcid.org/0000-0002-4067-1349>

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