

연구논문

Family Context Matters: Exploring Family Environmental Factors That Influence the Development and Performance of Religio-Cultural Menstrual Practices in Far-West Nepal

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Abstract

In far-west Nepalese communities, menstruating girls and women commonly observe multiple religio-cultural restrictions that reflect discriminatory beliefs and attitudes about menstruation. Multiple layers of social and environmental factors sustain the practice of these rituals. To address the culturally constructed risk factors and promote menstrual health in these communities, it is vital to understand how the local family, the basic societal unit, contributes to the reproduction of cultural menstrual practices. Guided by the Levels of Interacting Family Environmental Subsystems (LIFES) framework, the author conducted qualitative research in a far-west Nepalese community to

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identify family environmental factors that affect the local adolescents' development and performance of religio-cultural menstrual practices. The current study employed interviews with mothers and grandmothers of the post-menarche adolescents in the local community who live in an extended family. Through these interviews, the author explored how the caregivers learned about the menstrual ritual restrictions they practice, their experiences with and perceptions of the ritual restrictions, their interactions with their (grand)children in regard to the menstrual rituals, and the perceived menstrual health climate in their families. The findings underscore the importance of the family context in transmitting religio-cultural menstrual practices to members of younger generations.

Key words: Menstrual Health, Cultural Restrictions, Family Factors, Adolescents, Nepal

I. INTRODUCTION

In many communities in Nepal, menstruation has a negative religious connotation and menstrual blood is perceived as impure and polluting (Crawford et al., 2014; Thapa et al., 2019). Accordingly, religious strictures have been prescribed on local menstruating women and most of the female Nepalese population of reproductive age continue to observe one or more ritual restrictions (Crawford et al., 2014; UN Nepal, 2020). Many communities in western Nepal have been forcing menstruating girls and women to distance themselves from the elderly, men, sacred symbols, and religious places during their menstrual period based on the community's belief that menstruating women are 'contaminating' (UN Nepal, 2020). Studies have reported that the hostile socio-cultural context and religio-cultural rituals imposed on menstruating populations have taken significant tolls on the health of girls and women in the community (Hennegan & Montgomery, 2016; Thapa et al., 2019).

Religio-cultural menstrual practices are cultural constructs that have been constructed, transmitted, and transformed over time via a highly complex nonlinear process. Indeed, the locals' understandings of religio-cultural menstrual practices vary based on their lived experience and thus, religio-cultural menstrual practices in Nepal are referred to by different names in different Nepalese communities; these names include *separation practices*, *untouchability rituals*, *untouchability practices*, *menstrual rituals*, and *menstrual rules*. Nevertheless, there has been an attempt to define and categorise the most practised religio-cultural menstrual practices in Nepal. Thapa et al. (2019) categorise Nepalese religio-cultural menstrual practices into *seclusion practice* and *separation practice*. Their qualitative study has contributed to understandings of religio-cultural menstrual practices in Nepalese communities. According to Thapa et al. (2019), menstrual seclusion practice is an extreme form of restriction that is placed on menstruating girls and women. Locally known as *Chhaupadi*, the seclusion practice has been widely practised in western Nepal. *Chhaupadi* forces menstruating girls and women to live in livestock sheds or menstrual huts (Amatya et al., 2018), which is known locally as *Chhaugoth*. This socio-cultural practice expose girls and women to multiple health risks ranging from hypothermia during

the winter, heat-stroke during summer, reproductive tract infection and diarrhoea resulting from poor hygienic conditions during their seclusion, as well as poor nourishment, animal attacks, and depression from social exclusion (Kadariya & Aro, 2015).

Menstrual separation practice involves multiple restrictive menstrual rituals that menstruating populations in Nepal practice. Separation practices include forbidding menstruating girls and women from entering the temple, or the kitchen, touching or preparing food for others, and drinking cow's milk or eating yoghurt; cow is the sacred animal of Hinduism, a religion which over 80% of Nepali follow (World Population Review, 2022). Additionally, separation practices may also include a prohibition on sharing space or resources with others or even touching others (Mukherjee et al., 2020; Sommer & Sahin, 2013; Thapa et al., 2019). Over 91% of Nepali girls and women have reported they have experienced some form of menstrual separation during menstruation (UN Nepal, 2020). In a recent study regarding religio-cultural menstrual practices of post-menarche girls in Bajura (N = 398), a far-west district in Nepal, almost all participants (99.7%) responded that they were performing one or more menstrual separation practices (GNI Nepal, 2020). The separation practices entail mild-to-moderate level socio-cultural restrictions on menstruating females, and they are believed to have a lasting impact on the mental health and social well-being of the menstruating population in the local community (Thomson et al., 2019). In this regard, low self-esteem and depression among the menstruators are one of the most prominent short-term consequences of separation practices that involve the physical or psychological isolation of girls and women from their families and society (Kadiya & Aro, 2015). Over the long term, repeated exposure to these types of menstrual ritual restrictions have negative implications on members of the concerned populations' health, education, employment, social participation, and gender socialisation (Barrington et al., 2021; Hennegan et al., 2019; Marván & Molina-Abolnik, 2012; McPherson & Korfine, 2004; Rothchild & Piya, 2020; Sommer et al., 2016; UNICEF, 2021).

1. Research Gap in Understanding the Menstrual Health Climate in Nepal

In an effort to promote menstrual health in Nepalese communities, scholars have conducted a number of studies on menstrual health in Nepal. Groups of scholars have confirmed the broad prevalence of cultural menstrual practices in western Nepal (Amatya et al., 2018; GIZ, 2019; GNI Nepal, 2020; Thapa et al., 2019; UNICEF, 2018; UN Nepal, 2020). These studies have identified two major motives for the performance of menstrual restrictions: a prevalent negative religious connotation with menstrual blood in Nepalese communities and female community members' strict conformity to community norms and traditions (Amatya et al., 2018; Hennegan et al., 2019; Mukherjee et al., 2020; UNICEF, 2018; UN Nepal, 2020). Some studies elaborated on the various consequences that performing menstrual rituals have on different aspects of the health of post-menarche girls and women in the community, including their physical, reproductive, and mental health (Amatya et al., 2018; Ranabhat et al., 2015; Yilmaz et al., 2021). Other studies navigate the implications of religio-cultural menstrual practices on gender socialisation within the local population, focusing on how these cultural practices may instil negative feelings in the members of the menstruating population, leading to negative gender socialisation and gender identity within those populations (Rothchild & Piya, 2020; UNICEF, 2021). Additionally, studies that examine female Nepalis' perspectives on menstrual rituals have found that local women reported that they felt reluctant to resist traditional menstrual practices entirely but they had attempted to modify the menstrual rituals to lessen the inconveniences caused by the rituals (Crawford et al., 2014; Rothchild & Piya, 2020).

It is important to note that the menstrual ritual restrictions are a cultural construct that has continued and changed over generations while being affected by multiple contextual factors such as intergenerational transmissions (Trommsdorff, 2008). Thus, the nature of these menstrual rituals cannot be understood fully by focusing solely on individuals' experiences. Given this, it is worrisome that previous studies about menstrual health in Nepal have focused almost exclusively on describing specific individuals' menstrual experiences and the individual

determinants of religio-cultural menstrual practices. In fact, to the author's knowledge, only one article, by Thapa et al. (2019), has foregrounded the contextual factors in addressing religio-cultural practices. Thapa et al. (2019) maintained that contextual factors such as cultural beliefs that associate menstruation with impurity, community-wide menstrual stigma, poverty, illiteracy, the influences of family members and traditional healers, and a lack of effective interventions, are primarily responsible for the religio-cultural menstrual restrictions imposed on and practised by girls and women in Nepalese communities. Moreover, the dynamic whereby socio-cultural context shapes girls' and women's menstrual experiences has also been largely overlooked or sidelined (Amatya et al., 2018; Crawford et al., 2014; Hennegan et al., 2019; GIZ, 2019; Mukherjee et al., 2020; Rothchild & Piya, 2020; Thapa & Aro, 2021; UNICEF, 2018; UN Nepal, 2020).

A social-ecological approach can help promote contextual understandings of religio-cultural beliefs and practices surrounding menstruation in Nepal (Thapa & Aro, 2021; Thapa et al., 2019). Such an approach focuses on understanding the interrelationship between individuals and their multilevel environments in health promotion (Mehtälä et al., 2014). It asserts that individuals' intrapersonal behavioural factors are in constant interaction with the surrounding, where their behaviours take place (Garney et al., 2021). In this regard, implementation research have consistently underlined that the contextualised understanding of an individual's health or risk behaviours is the active ingredient in designing successful health promotion programmes (Kegler et al., 2011; Kok et al., 2015). A contextualist perspective on religio-cultural menstrual practice is likely to shed light on the environmental factors that influence how individuals learn about, adapt to, and internalise traditional menstrual norms and develop pertinent religio-cultural menstrual practices throughout their developmental process (Rothchild & Piya, 2020; Thapa & Aro, 2021; Thapa et al., 2019).

Investigating the micro-level context of religio-cultural menstrual practices by focusing on the family system can help reveal the essential dynamics of how menstrual beliefs and practices are developed and maintained. Prevalent menstrual beliefs and practices represent a community's perceptions of menstruation and menstruating females. Studies have identified the integral roles that families play

in transmitting traditional menstrual beliefs and associated practices while simultaneously filling the role as the primary agent of adolescents' socialisation (Karki et al., 2017; Rothchild & Piya, 2020; Tam, 2015; UNICEF, 2021). Likewise, it is family and its rules that determines whether or not menstrual restrictions are imposed on adolescent girls as well as what form the restrictions take (GNI Nepal, 2020; Mukherjee et al., 2020). Scholars examined the cultural beliefs and practices surrounding menstruation in Nepalese communities through a life history narrative analysis. The results indicated that family members' knowledge and attitudes had substantial impacts on adolescent girls' menstrual beliefs and future practices (Rothchild & Piya, 2020). Scholars have consistently identified elderly female family members as the enforcers of the menstrual ritual, and female members of the family have been found to play critical roles in constructing menstrual beliefs and practices (Crawford et al., 2014; Hennegan et al., 2021; Thapa et al., 2019; UN Nepal, 2020). Furthermore, lack of familial support has been recognised as a critical local-contextual barrier to effective menstrual health interventions for adolescent girls in many countries (Plesons et al., 2021; Shannon et al., 2021; Thapa et al., 2019). Nevertheless, to the author's knowledge, there has been no research exploring how different types of families and levels of the family factors affect female adolescents' menstrual beliefs and associated cultural practices in the Nepalese cultural context.

2. Problem Statement: The Need to Explore Family Environmental Factors That Affects the Development and Performance of Adolescents' Religio-Cultural Menstrual Practices

A qualitative study was conducted to address the identified knowledge gap in regard to family environmental factors that influence the development of adolescents' religio-cultural menstrual practices in far-west Nepal. The exploratory research uses *the Levels of Interacting Family Environmental Subsystems (LIFES) framework* (Niermann et al., 2018) as its theoretical framework. Considering the close and critical relationship between the family microsystem and a child or adolescent's healthy or unhealthy behaviours, the LIFES framework provides a valid conceptual basis for understanding the development and performance of

different behavioural patterns or habits of children and adolescents in the family context (Niermann et al., 2018).

The goal of the study was to identify family environmental factors that have implications on the socio-cultural construction of religio-cultural menstrual practices in a far-west community in Nepal. Accordingly, an exploratory study was designed to navigate the family factors that might affect the transmission of local religio-cultural menstrual practices to next generation in the family context. To this end, the following research questions were developed: *how do local mothers and grandmothers describe their religio-cultural menstrual practices and pertinent perceptions (about individual subsystem factors)?; how do they describe their interactions with their post-menarche (grand)daughters that are pertinent to the adolescents' religio-cultural menstrual practices (about interpersonal subsystem factors)?; how do they describe the family menstrual health climate that is pertinent to the adolescents' religio-cultural menstrual practices (about family-as-a-whole subsystem factors)?*

II. METHODS

1. Study Design

A qualitative study was conducted in the Badimalika municipality in the Bajura district, a far-west region of Nepal where menstrual stigma and discriminatory restrictions on menstruating girls are prevalent (Pandit et al., 2021). It was presumed that local adolescent's religio-cultural menstrual practices are shaped by senior family members, mostly mothers and grandmothers, as they transfer the shared menstrual beliefs and practical understandings of menstruation of their generations to the next via the socialisation process (GIZ, 2019; GNI Nepal, 2020; Karki et al., 2017; Rothchild & Piya, 2020; UNICEF, 2018; UNICEF, 2021; UN Nepal, 2020). Therefore, an inductive approach was adopted to explore the family environmental factors of adolescents' menstrual separation practices. To that end, an on-site semi-structured interviews were conducted.

2. Participants

For the interviews, mother-grandmother dyads consisting of the mothers and grandmothers of post-menarche girls aged 12-17 who come from families that currently live in Badimalika municipality were recruited. To this end, the extended families of the grandmothers, mothers, and daughters, who either live together or in proximity to one another and interacting on a daily basis, were invited to participate in the study. For this study, extended family was defined as 'consist[ing] of several generations of people and ... include[ing] biological parents and their children as well as in-laws, grandparents, aunts, uncles, and cousins' (Bester & Malan van Rooyen, 2015). Of the local families showed interest in participating in the study, only those families whose female members openly admitted that they practised cultural menstrual practices at home were eligible for the study and were thus recruited. When recruiting the study participants, 'mother' was operationally defined as any female primary caretaker of adolescents who is responsible for nurturing the adolescent girls, and was not limited to biological mothers (UNICEF, 2021). 'Grandmother' was defined as the mother-in-law of the 'mother', taking into consideration the local family culture, whereby 'the family relations are normally connected through the male side (Patrilineal)' (Evason, 2017). The target group for the interviews was selected based on the prominent roles that mothers and grandmothers play in reproducing cultural menstrual practises within local families by instilling certain menstrual beliefs into adolescent girls (Crawford et al., 2014; Mukherjee et al., 2020). Fathers were not included in the study as evidence shows they have a marginal impact on adolescent girls' menstrual behaviours (GNI Nepal, 2020; UNICEF, 2017).

3. Materials

The author developed an interview guide for the purpose of the semi-structured interviews. The LIFES framework and other behavioural theories, including social-ecological models, guided the development of the interview questions. A set of interview questions was prepared to explore the participants' past and recent

experiences with religio-cultural menstrual practices, associated parenting practices and their family climates. The theoretical framework introduces three subsystems (i.g., individual, interpersonal, and family-as-a-whole) and three levels of influences (i.g., immediate, proximal, and distal) to categorise the effects that family environmental factors have on children and adolescents' behaviours. Accordingly, the author developed operational definitions for the concerned concepts, which are presented in <Table 1>.

Interview questions were initially developed in English and translated into Nepali. The interviews explored a variety of topics, including the general menstrual experiences of the caregivers, caregivers' personal experiences with religio-cultural menstrual practices, parenting experiences relevant to these menstrual practices, and family-level experiences regarding menstrual practices. Then, the interview questions were finalised by incorporating the findings from pretesting of the drafted questions.

<Table 1> The hypothesized LIFES framework to understand the local adolescents' religio-cultural menstrual practices in far-western Nepal

Category	Sub-category	Operational definition
Family subsystem	Individual	Nature and characteristics of the caregivers (e.g., grandmother and mother), which have implications on the adolescent girls' development and performance of religio-cultural menstrual practices.
	Interpersonal	Nature and characteristics of the caregiver-child interactions (e.g., mother-child, grandmother-child), which have implications on the adolescent girls' development and performance of religio-cultural menstrual practices.
	Family-as-a-whole	Nature and characteristics of the local family, which have implications on the adolescent girls' religio-cultural menstrual practices.
Level of influence	Immediate	Manifested behavioural strategies pertinent to menstrual practices.
	Proximal	Cognitive, motivational, volitional or affective factors that affect the menstrual practices or pertaining interactions.
	Distal	Contextual factors that are supposed to have indirect impacts on religio-cultural menstrual practices or pertaining interactions as a high-level moderators.

LIFES, Levels of Interacting Family Environmental Subsystems.

4. Procedures

The study was approved by the Ethics Review Board at the Nepal Health Research Council (NHRC) and the Research Ethics Committee of the Faculty of Health, Medicine and Life Sciences (FHML).

Recruitment of the study participants took place throughout March 2022. Snowball sampling was used to recruit the research participants. This involved sharing eligibility criteria with two local female community health volunteers (FCHVs), who serve as the backbone of the health care system in rural Nepalese communities (Khatri et al., 2017). The FCHVs provided a list of eligible candidates in the community comprised of 10 local extended families; two for pretesting and eight for the actual study. The author's consultation with the FCHVs was arranged and supported by *the Good Neighbors International Nepal (GNI Nepal) Health and Rights Improvement Project (HRIP)* Office. Field research for this explorative study was conducted between April 9th and 16th, 2022.

Based on the information gathered through the pretesting, interviewees participated in a 10-minute ice-breaking session before the interviews to ensure they felt safe and comfortable to sharing their stories regarding their menstrual experiences. A total of six people attended the ice-breaking session, including the author, a female Nepali research assistant, the Project Coordinator (PC) of the *GNI Nepal HRIP* team, one FCHV, and a mother and grandmother from the same family. The HRIP team's PC was invited to the session as a facilitator, because of his ability to speak both the local dialect and English fluently and his rapport with members of the local community. The facilitator warmly welcomed the study participants, led small talk, and helped the author and research assistant explain the purpose of the study to the participants. After the ice-breaking session, one member of the participating family was invited to the interview room, which was a separate room in the HRIP office, while the other family member was asked to wait for her turn in the waiting room.

A trained Nepali female research assistant led each interview in the separate interview room. During the interviews, the author waited in a different room. The purpose of this was twofold. First, the author wished to avoid distracting the interview participants. Second, the author learned that the physical presence of a

foreign researcher observing the interview process without directly engaging in the communication could create awkwardness. Only participants who provided verbal consent to participate in the interview, and to the audio recording of the interview were invited to participate in a 1:1 face-to-face interview. Considering that the moderator of the interview was a Nepali but not originally from the concerned community, the participants were asked if they would prefer FCHV to attend the interview with them to create an ambience where participants feel safe and trusting to share their menstrual practice-related experiences. Where an interviewee requested that an FCHV be present during the interview, FCHVs were engaged in the interview to facilitate communication between the moderator and interviewee. FCHVs attended five interviews with the grandmothers and helped the interviewees understand the questions through their use of the local dialect and instructions that were based on the local culture. Participants were informed about the confidentiality of the interviews to encourage them to provide reliable answers. Next, participants were informed about the contents and procedures of the interviews. Each participants provided a signed inform consent form at the end of their interview, which provided the final confirmation for the use of the qualitative findings gathered through the interviews for the study. The interviews took between 38 and 64 minutes. De-identified data were collected on a password-protected external hard disk. After each interview, interview participants received a small gift, consist of soap and detergent (with a value of 55 NRs each). Additionally, the study participants also received 250 NRs at the end of the interview to compensate them for the expenses they incurred to travel to the venue for the interviews, including the meal and transportation fees. The amount for compensation reflected market prices. After the interviews, the author and the local research assistant, who moderated the interviews, held a daily review meeting to review the findings from each interview.

5. Data Analysis

The qualitative data collected through the interviews were transcribed verbatim in Nepali. The transcripts were then translated into English by the Nepali research assistant who conducted the interviews. Three native Nepali researchers who were

not engaged in the interviews nor in the field research reviewed the original Nepali transcripts and English translations. One reviewer was recruited from the research organisation with which the local research assistant is currently affiliated, while the other two were engaged in the public health department of GNI Nepal Head Office. They assisted the author in the quality management of the transcripts that had been translated into English. Two reviewers from GNI Nepal also helped the author in validating the cultural appropriateness of her interpretations of the findings. The reviewers' feedback was used to refine the drafts of the translated transcripts, and prepare the final version of the English transcripts for analysis. The English transcripts were then hand-coded for content analysis. Using a code tree, 12 family environmental factors that have influenced the adolescents' religio-cultural menstrual practices were identified (<Table 2>): *mothers' and grandmothers' (hereafter, caregivers) observance of menstrual rituals; caregiver-adolescent's menstrual ritual-related communications; caregivers' perceptions in regard to their religio-cultural menstrual practices; caregivers' personalities; caregiver-adolescent menstrual ritual-related communications; supports that caregivers provide to girls who observe menstrual rituals; caregivers' parental beliefs about religio-cultural menstrual practices; perceived behavioural control of the caregivers; perceived role of the (grand)mother as a caregiver; family level support provided to girls who are observing menstrual rituals; family climate surrounding female members' observance of menstrual rituals; perceived role and behavioural control of the caregiver in parenting; family functioning; physical co-habitation status of the extended family*. Subsequently, the transcripts were coded for thematic analysis based on the identified factors. The analysis was guided by a hypothetical LIFES framework regarding adolescents' religio-cultural menstrual practices in far-west Nepal (<Table 1>). Accordingly, the responses were grouped into three major themes that reflect different family subsystems that contribute to the local adolescents' learning and observance of religio-cultural menstrual practices. Furthermore, nine sub-themes were created to indicate the level of familial influence on each family factor. Based on this work, the study identifies twelve family environmental factors that appears to have had effects on the adolescents' development and the maintenance of these cultural behaviours: mothers' and grandmothers' (hereafter, caregivers) observance of menstrual rituals;

〈Table 2〉 Coding tree: Identified family environmental factors of adolescent girls' development and performance of religio-cultural menstrual practices

Major themes	Sub themes	Codes	Description
Individual subsystem	Immediate level influence	Caregivers' observance of menstrual rituals	Mothers and grandmothers practice menstrual rituals during their menstruation in a regular basis and as growing up, adolescent girls have seen their mothers and grandmothers observing the menstrual ritual restrictions. Manifested menstrual practices of the primary caregivers in the family in the local context have promoted adolescent girls to learn the cultural practices and social expectations for menstruating women. To add, observed adherence of the menstrual practices of caregivers affect the adolescents' maintenance of menstrual practices. Caregivers' strong adherence to menstrual practices seemed to make adolescents reluctant and cautious to questions the validity of the cultural rituals and reject the concerned traditions.
	Proximal level influence	Caregivers' perceptions in regard to their religio-cultural menstrual practices	Caregivers' understanding and perspectives of menstrual rituals form the cognitive basis of the pertaining parenting practices. Motivations of mothers and grandmothers to observe menstrual practices, their understanding of the cultural changes regarding menstrual practices, and their perceptions of the contemporary menstrual practices seemed to have influence on how the caregivers interact with their menstruating daughter. Menstrual practice-related interaction in this regard includes the caregivers' level of engagement and proactiveness in promoting menstrual health of the adolescent girls in the family context.
	Distal level influence	Caregivers' personalities	Caregivers' personality has implications on adolescents' menstrual practices as it is reflected on caregivers' menstrual practices and pertinent perceptions. The study identified dispositional tendency to seek for others' approval, level of agreeableness and openness to experience as relevant to the adolescents' menstrual practices as a high-level moderator.
Inter-personal system	Immediate level influence	Caregiver-adolescent menstrual-ritual-related communications	Caregivers communicate with adolescents regarding menstrual rituals. Through caregiver-child communication, family rules and restrictions on menstruating women are instructed to the adolescent girls and the caregivers monitor and supervise the child's observance of menstrual rituals. Caregivers' own menstrual experiences are found to be reflected on how and what kind of message the caregivers deliver to the adolescents regarding the menstrual rituals. The mothers and grandmothers reported that they mostly use punitive discipline (e.g., nagging) as they deliver the pertaining messages. They also reported that subsequently to the nagging, quarrel between caregivers-child followed with the adolescents requesting caregivers for valid explanation why they shall adhere to menstrual ritual restrictions. Caregivers' verbal instruction on menstrual rituals would serve the adolescent as the reference for developing their menstrual practices. And, parental monitoring for adherence to the menstrual rituals would affect the adolescents' maintenance of the menstrual practices.

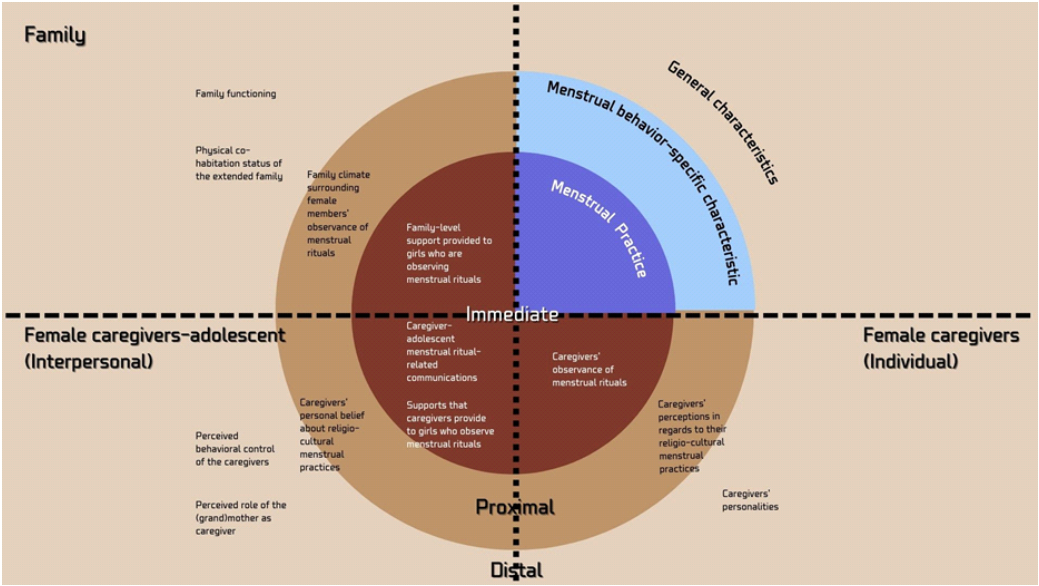
〈Table 2〉 Continued

Major themes	Sub themes	Codes	Description
Inter-personal system	Immediate level influence	Supports that caregivers provide to girls who observe menstrual rituals	Caregivers provide menstruating girls with instrumental support when the girls observe the menstrual rituals. When performing routine task is obstructed by the rituals (e.g., not entering the kitchen during the menstruation), caregivers support them with managing the task. The most popular case reported by the caregivers was that caregivers cook food for the children and feed them during the menstruation as their menstruating daughters are not allowed to enter the kitchen. The findings indicated that the experience of menstrual rituals may be perceived as experience of social support by the adolescent girls and affect the girls' motivation to perform the menstrual practices.
	Proximal level influence	Caregivers' parental beliefs about religio-cultural menstrual practices	Caregivers' parental belief of menstrual practices is supposed to be the antecedents of the caregivers' parenting practices regarding menstrual practices. The study identified the two prominent cognitive factors that affect pertaining caregiver-child interaction: importance of the menstrual practices perceived by the caregivers and improved menstrual health and hygiene knowledge and awareness among caregivers pertinent to their parenting practice. These factors may have indirect impact on the local adolescents' development and maintenance of menstrual practices.
Inter-personal system	Distal level influence	Perceived behavioural control of the caregivers	Perceived behavioural control of the caregivers has implication on the general parenting practices of the local family. The caregivers were focusing exclusively on supporting childrens' social integration in parenting than developing their the sense of independence and self-concept. The distal level interpersonal factor is assumed to be the higher-level moderator that affects the caregivers' parenting practices including those pertaining to adolescents' menstrual practice.
		Perceived role of the (grand)mother as caregiver	Perceived role of the mothers and grandmothers as caregiver is expected to reflect the general parenting strategy of the local family. The local mothers and grandmothers presented low parental self-efficacy in parenting. The distal level interpersonal factor is assumed to be the higher-level moderator that affects the caregivers' parenting practices including those pertaining to adolescents' menstrual practice.

〈Table 2〉 Continued

Major themes	Sub themes	Codes	Description
Family-as-a-whole system	Immediate level influence	Family level support provided to girls who are observing menstruating rituals	In the local community, family members were providing support for adolescent girls as they are observing menstrual practices. It is primarily female family members including grandmother, mother, and sisters including sister-in-law and cousin-sister that share responsibility of supporting other female members when the girls have any difficulties while observing the family menstrual rituals. While the frequency may differ, nature of the support provided to the adolescent girls are the same as the one provided via caregiver-child interpersonal interaction.
	Proximal level influence	Family climate surrounding female members' observance of menstrual rituals	In extended family setting in the local community, grandmothers and mothers were co-developing the menstrual rules and ritual restrictions for menstruating girls and women. Grandmothers and mothers shared the responsibility for monitoring the adolescents' adherence to the menstrual practices. However, it was predominantly mothers, who had more impact on adolescents' menstrual practices than grandmothers, as they had more frequent interactions with the adolescents in general. The local family was ready to provide any support for adolescent girls observing the menstrual rituals and connotation of menstruating women being untouchable was no longer valid in the family. Nevertheless, some elderly presented resistance for menstruating women touching them based on the belief that it would invite misfortune.
	Distal level influence	Family functioning	Characteristics of the extended families in the local context such as vertical family hierarchy with high parental authority and low status of women in the family have implications on adolescents' menstrual practices. The local families demonstrating high parental authority coupled with lower youth autonomy were inclined to have adolescent girls observe stricter menstrual rules and restrictions. On the other hand, the more family responsibility and workload are imposed on girls and women (during their menstruation), the shorter the duration of the menstrual practices tended to become.
		Physical co-habitation status of the extended family	Physical co-habitation status of the local extended families was identified to decide the primary decision maker of the family's menstrual rule and restrictions. When grandmother was living with the adolescent girl and her mother, grandmother's menstrual belief was prioritized than the mother's in the family's menstrual practice. However, when grandmother was living separately with the adolescent girls, menstrual belief of mother or foster mother ruled the adolescent girls' menstrual practices almost exclusively.

〈Figure 1〉 Findings: family environmental factors of adolescent girls’ development and performance of religio-cultural menstrual practices in rural Nepalese communities



caregiver-adolescent's menstrual ritual-related communications; caregivers’ perceptions in regard to their religio-cultural menstrual practices; caregivers’ personalities; caregiver-adolescent menstrual ritual-related communications; supports that caregivers provide to girls who observe menstrual rituals; caregivers’ parental beliefs about religio-cultural menstrual practices; perceived behavioural control of the caregivers; perceived role of the (grand)mother as a caregiver; family level support provided to girls who are observing menstrual rituals; family climate surrounding female members' observance of menstrual rituals; perceived role and behavioural control of the caregiver in parenting; family functioning; physical co-habitation status of the extended family (see 〈Figure 1〉 for the summary of the findings).

III. RESULTS

A total of 16 interviews - eight with the mothers and eight with the grandmothers of menstruating adolescents from the eight local extended families – were conducted. All the participants were from Badimalika municipality; seven

families were from Ward 8 and one family was from Ward 9. All of them were of Brahmin/Chhetri origin and believed in Hinduism. The post-menarche adolescents' mothers and grandmothers ranged in age from 24 to 50 and from 53 to 80, respectively. While seven mothers were the biological mothers of the adolescent, one mother identified herself as a foster mother to one of the adolescents. Education levels varied among the participants, but most of the interviewees were illiterate or had no formal education. Two families reported that the grandmother was currently living with the mother and the adolescent, while the other families said that the grandmother was living in proximity but separate from the mother and adolescent. <Table 3>, below, presents a summary of the participants demographics.

<Table 3> Participant demographics

Participants	Interviewees	Caste/ethnic group	District/municipality	Ward #	Religion	Age	Level of education	Home of origin	Age of post-menarche adolescent	Cohabitation status
Family 1	Grand-mother 1	Brahmin/Chhetri ¹⁾	Bajura/Badimalika	8	Hindu	60	Illiterate/non-formal education	Bajura	13	Living together
	Mother 1	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	31	Bachelor and above	Bajura		
Family 2	Grand-mother 2	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	58	Illiterate/non-formal education	Bajura	17	Living together
	Mother 2	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	38	Illiterate/non-formal education	Bajura		
Family 3	Grand-mother 3	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	38	Illiterate/non-formal education	Bajura	14	Living separately
	Mother 3	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	42	Illiterate/non-formal education	Bajura		
Family 4	Grand-mother 4	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	62	Illiterate/non-formal education	Bajura	13	Living separately
	Mother 4	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	41	Illiterate/non-formal education	Bajura		

〈Table 3〉 Continued

Participants	Inter-viewees	Caste/ethnic group	District/ municipality	Ward #	Religion	Age	Level of education	Home of origin	Age of post-menarche adolescent	Cohabitation status
Family 5	Grand-mother 5	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	68	Illiterate/non-formal education	Bajura	17	Living separately
	Mother 5	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	41	Illiterate/non-formal education	Bajura		
Family 6	Grand-mother 6	Brahmin/Chhetri	Bajura/Badimalika	9	Hindu	Mid-60s	Illiterate/non-formal education	Bajura	16	Living separately
	Mother 6	Brahmin/Chhetri	Bajura/Badimalika	9	Hindu	34	Illiterate/non-formal education	Bajura		
Family 7	Grand-mother 7	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	80	Illiterate/non-formal education	Bajura	17	Living separately
	Mother 7	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	50	Illiterate/non-formal education	Bajura		
Family 8	Grand-mother 8	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	53	Illiterate/non-formal education	Bajura	16	Living separately
	Mother 8 ²⁾	Brahmin/Chhetri	Bajura/Badimalika	8	Hindu	24	Secondary leave	Bajura		

Note: One participant did not report their age.

¹⁾ While Brahmin and Chhetri are practically different castes, when it comes to cultural practices, Brahmin and Chhetri follow the same rule. Accordingly, in every cultural studies in Nepal, participants are asked whether they are Brahmin/Chhetri or the other castes (e.g., Newar, Janajati, Gurung, Sherpa or Dalit). Likewise, while the other castes can be differentiated by the local participants' surname, Brahmin and Chhetri could not be differentiated with their surname.

²⁾ Mother 8 is the foster mother of the menstruating girl, whose mother left her when she was a child. Except for mother 8, all the other mother participated to the study was the birth-mother of the menstruating adolescent girls.

1. Individual Subsystem

The first theme reflects on the mothers' and grandmothers' lived experiences of local menstrual rituals. The study identified three overarching individual factors

pertinent to the caregivers that influence the adolescents' development of religio-cultural menstrual practices in the family context: caregivers' observance of menstrual rituals, their perceptions in regard to their religio-cultural menstrual practices and caregivers' personalities.

1) Immediate level: Caregivers' observance of menstrual rituals

Nine study participants, including all eight mothers and one grandmother of the local adolescent girls, reported that they were contemporarily obliged to observe menstrual rituals. Seven other participants said that they had gone through the menopause. Although the type, duration, number and strictness of the ritual restrictions experienced by the interviewees varied per family, some similarities in cultural religio-cultural menstrual practices were detected across the interviews. For instance, in general, the menstrual rituals were observed for 4-5 days after the first day of menstruation. All study participants reported that they avoid going to the temple and not touching symbols of gods/goddesses, including traditional healers, when menstruating. In this regard, all of the interviewees presented high commitment and consistency in observing menstrual rules that concern keeping a distance from gods/goddesses during menstruation. All participants shared that they conduct the cleansing ceremony on the last day of menstruation. They said they were washing all of their clothes, bedding and clothing used during their period to 'purify', 'clean' or 'cleanse' their belongings. Most interviewees also mentioned that they do not enter the kitchen or drink milk, curd and yogurt during menstruation. Some mentioned that dairy products from buffalos rather than cows are allowed. However, the level of adherence to the mentioned rituals differed among the participants.

"I am following the restrictions like not going to temple and kitchen, not touching traditional healers, not touching the source of water, not drinking cow's milk and yogurt and not sleeping in the bed during the period. I follow menstrual rituals for 4 days. I clean myself and wash the clothes I used during the period for purification on the 4th day and enter the kitchen on the 5th day of menstruation. However, while I am not supposed to drink milk or yogurt from cows during menstruation, previously, when my mother-in-law was not at home... I drank them (laughing)" (Mother 1)

"We do not touch the god/goddess and traditional healers do not enter the kitchen during the period. Nowadays, I practice menstrual separation for 5 days. But... if there is any urgency, I may have entered the kitchen a few times. For example, if there is no one in the home to cook food. In that case, I must enter the kitchen... right? it is necessary to eat food anyway. We have not drunk cow milk yet. But... we can drink buffalo milk." (Mother 6)

Other local menstrual rituals referred by the study participants included not touching the source of water, not touching male members of the family, not touching the elderly, not feeding the cattle, not touching plants, not sleeping in the regular room, not sleeping on their regular bed, using a separate room prepared for menstruating members and using separate cooking utensils during menstruation. While all of the mothers and grandmothers, except for one mother in her twenties, had experience of staying in *Chhaugoth* during their period in the past, none of them were currently observing the practice of *Chhaupadi*.

2) Proximal level: Caregivers' perceptions in regard to their religio-cultural menstrual practices

Caregivers shared different reasons for observing the menstrual rituals, ranging from not angering the god/goddess, conforming to the community traditions, respecting deities, respecting the family rules set by the elderly, managing spiritual purity and avoiding inviting misfortune and calamity to their family and neighbours. Many participants referred to more than two reasons for their observance of the rituals. A great majority of the caregivers attributed the observance of religio-cultural menstrual practices to intrinsic motivations in observing menstrual rituals. Some stated that whether to observe menstrual rituals is not a matter of an individual's choice, but the locus of control belongs to either the god/goddess or community-as-a-whole.

"I started following the rituals because my mother-in-law asked me to do so... If community rules and restrictions will change, we will adapt to it. If other menstruating community members start going to the temple, I think... I and my family may end up joining them... but, my heart does not allow me to join the

trend. I think we should not go to the temple when we are menstruating. I do not know what will happen, but the temple should be avoided. I am afraid of not following the restrictions because somebody from the community will start shivering and fall ill if we go to the temple during menstruation." (Grandmother 2)

Most of those who presented intrinsic motivations for observing menstrual rituals highlighted their awareness of the fact that there would be no negative consequences for not practicing menstrual rituals.

"I do not want her to go to kitchen or temple during her period because it is a sin. God stays in temple also in the kitchen. And at water source as well. They shall be respected. It is a sin if you are giving water to somebody during their menstruation. It is not a virtuous behaviour at all! I already know nothing may happen when women disobey the rule and go to the temple or kitchen during her period. But it would be good if they do not touch the god/goddess, since they are to be respected." (Grandmother 4)

However, two participants named external pressures as the most prominent reason for observing menstrual restrictions.

"The only reason why I am not going to temple during the menstruation is that I would not want to go there during menstruation when other women do not go to temple during their period. If others start to go, then I will go. No women really choose to perform menstrual restrictions. We are compelled to follow the rules. People like our mothers or parents-in-law, they force us to follow the rules." (Mother 8)

Local caregivers' perceptions of menstrual rituals also were reflected in their understanding of the changing nature of the concerned cultural tradition over time. When asked about their thoughts and feelings about religio-cultural menstrual practices, all interviewees expressed a strong impression of the cultural changes and illustrated how the contemporary environment for menstruating populations differs from the past. Overall, all participants appreciated the cultural change in the reduced severity of menstrual rules and reduced restrictions. Particularly, caregivers shared that they were happy with the eradication of

Chhaupadi practices in the community. They said the change has addressed the physical health risks imposed on the menstruating women as they were staying in the *Chhaugoth*. The study participants also commented that they witnessed the change process in the community, which decreased the enacted stigma on menstruating women. They reported that contemporarily, menstruating girls and women in the community receive a lot of support, while menstruating women were openly discriminated against and virtually excluded from the community in the past.

"Family rules have been changed over time. ... Also, there are a lot of facilities that support her to maintain hygiene during her period. ... Menstrual rituals from the past belong to the past and now we have our own rituals adjusted to the time we are living on. So many things have been changed. Earlier, we used to stay in a *Chhaugoth* but now, women stay in their own room. Now, they can do everything at home, except for going into the kitchen. I am happy about the changes in *Chhaupadi*. But honestly, I feel uncomfortable with all the other changes [in menstrual rituals]. After *Chhaugoth* was demolished, some women even started cutting wet grass and feeding the cow. The duration for following menstrual rituals before was 7 days, but people only do it for 4 days now." (Grandmother 1)

On the other hand, when the sense of ownership regarding the cultural changes in religio-cultural menstrual practices was investigated, most local women attributed the changes to the external forces such as community development organisations and governments. According to the interview, the cultural change was understood as something that 'happened' in the community overtime without the community's role in change process specified. Nevertheless, one participant shared her belief that cultural change can take place due to the changes of the individuals.

"There are many reasons what enabled all of the changes in menstrual rules. Seeing other changes is one of the reasons... for example, if I am menstruating but cooking my food in the kitchen and eating it, other people may also follow me." (Mother 8)

3) Distal level: Caregivers' personalities

Shared discourse from the study participants implied distal level individual factors of the caregivers that would have an impact on adolescents' religio-cultural menstrual practices. Dispositional tendency to seek for approval from others than for self-validation seemed to base all of the caregivers' manifested religio-cultural menstrual practices and their pertinent perceptions. Moreover, many participants demonstrated relatively high levels of agreeableness in that they considered a strong sense of community and compliance to the community's expectations as virtuous.

On the other hand, one young mother, who strongly denied the validity of religio-cultural menstrual practices, presented relatively low agreeableness and higher openness to experience than others. She used original and independent standards to make decisions for herself and was highly responsive to one's own needs and emotions.

"I know that people who live in cities don't follow all of these [rituals] and are living normal lives. If so, why do only we fear God and follow these? If God gets angry, why hasn't he got angry with people in urban areas? Because of this, I changed my practice. God is for all people not just for village people, isn't it? ... The only reason why I am not going to the temple during menstruation is the fear of being ostracised." (Mother 8)

She claimed that her own opinion represents the younger generation like her by putting it in this way:

"Many other women of my generation or of similar ages also do the same as I do. We do not follow many restrictions so strictly. It is only community women like my mother, mothers-in-law, who are following the old restriction [who observe many menstrual rituals so strictly]." (Mother 8)

2. Interpersonal Subsystem

The second theme reflects the mothers' and grandmothers' interactions with their adolescent daughters in relation to the adolescents' religio-cultural menstrual

practices. The study identified five overarching interpersonal factors between the caregivers and children that influence the adolescents' development of religio-cultural menstrual practices in the family context; caregiver-adolescent menstrual ritual-related communication, supports that caregivers provide to girls who observe menstrual rituals, caregivers' parental beliefs about religio-cultural menstrual practices, perceived behavioural control of the caregivers and perceived role of the (grand)mother as a caregiver in the local context.

1) Immediate level: Caregiver-adolescent menstrual ritual-related communication & Caregivers' support provided to girls observing menstrual rituals

The study identified two major ways in which direct interactions between caregivers and menstruating children had been taking place in the family context with respect to the adolescent girls' development and performance of religio-cultural menstrual practices. Caregiver-child interactions in this context include both mother-child and grandmother-grandchild interactions. In one way, the interactions took the form of menstrual ritual-related communications while the other was the caregivers' support provision for girls observing menstrual rituals.

2) Menstrual-ritual related communications

Caregivers provided verbal instructions to their children about family rules on menstruating women and as monitoring the child's adherence to the menstrual rules and rituals. All families reported that the family rules on menstrual rituals were given to the child when caregivers were informed that their (grand)daughters had experienced menarche. When describing how they informed children about the menstrual rituals, the caregivers shared that they 'advised' or 'requested' their (grand)children to keep in mind and abide by the family's menstrual rituals as the code of conduct during menstruation. While the religio-cultural menstrual practice that caregivers taught to adolescents varied by family, every interviewee reported that their house rules for menstruating girls included not going to the temple or touching the god/goddess, not entering the kitchen and cleaning all clothes used during their period on the last day of the ritual. Not drinking milk and yogurt from cows and sleeping on the floor rather than the bed, as well as not touching

the elderly, were also popularly reported menstrual rules that adolescent girls from different families were instructed to observe during menstruation.

"I told her not to go to the temple or to the kitchen. I have not given her milk or curd at those times. She was also asked to wash all of the clothes she used during her period. She followed the rules for 6 days for the 1st year of menstruation, which has now been shortened to 5 days." (Mother 3)

"As she told me that she is now menstruating, I told her that you should not go to the kitchen or temple and you shall maintain hygiene during your period." (Grandmother 6)

Many grandmothers and some mothers were inclined to add requests for adolescent girls like *"do not behave carelessly"* or *"do not roam around here and there"* during menstruation.

"I advised her to stay in her own room, not to run here and there... And she was told not to sleep in bed during her menstrual period. I also said she should not go to the kitchen or temple." (Mother 1)

However, according to the interview, emotional or appraisal support for menstruating adolescents was hardly provided to adolescents via caregiver-child communications.

Caregivers-adolescent menstrual ritual-related communications took place when the caregivers were monitoring the (grand)children's adherence to the instructed religio-cultural menstrual practices. All caregivers reported that they monitored the adolescents' menstrual ritual observance spontaneously, not regularly. In this regard, the caregivers described that they 'nagged' their menstruating (grand) children whenever they somehow noticed that their child was not adhering to the menstrual rituals appropriately. They also reported that their (grand)daughters became irritated and complained when guided to observe religio-cultural menstrual practices. Seven out of eight families reported that their menstruating daughter had requested a valid reason why they were asked to abide by all menstrual ritual restrictions and argued with the caregivers by saying 'nothing bad will happen even if menstruating women violate menstrual rituals'. In response,

many caregivers had attempted to convince the adolescents to observe the rituals by identifying the observance with being respectful for the rules of the god/goddess for menstruating women and/or compliance with contemporary community norms regarding menstruating women.

"I have only told my daughter to follow those few restrictions. Still, sometimes, she raises issues about the current rules. At that time, I tell her, do all of the other things as you wish, but at least never enter the kitchen or temple. I told her if she goes to the temple, God will get angry." (Mother 5)

"My granddaughter used to ask me why menstrual restrictions have to be followed and I used to answer... because it is community's rule." (Grandmother 2)

When teaching or monitoring adolescents with regard to the observance of religio-cultural menstrual practices, many caregivers recalled sharing their own menstrual experiences from childhood. The primary intention behind sharing their experience was suspected to be highlighting the ease of the contemporary set of menstrual rituals compared to previous ones.

"I sometimes tell my granddaughter like "you are so lucky. I used to go to the Chhaugoth but you are allowed to stay in your home. We had a lot of troubles during menstruation at that time." (Grandmother 4)

"I shared with my daughter my menstrual experience. I shared with her my lived experience of Chhaugoth and how difficult it was at that time." (Mother 6)

Meanwhile, all of the mothers and grandmothers indicated that the frequency and strictness of the monitoring had been gradually decreasing. In this regard, interviewees attributed the change to the decreased parental behavioural control caused by different external factors and to the increased assertiveness of the adolescents. One interviewee indicated that the increased availability of menstrual materials and supplies for girls and women in the community had made menstruation a socially invisible event and, thus, it became harder for caregivers to monitor their menstruating children.

"These days, it is hard to monitor if menstrual restrictions are observed by my family as we did in the past. On top of anything... nowadays... we do not know who is menstruating and who is not. We just cannot tell." (Grandmother 5)

3) Support that caregivers provide to girls who observe menstrual rituals

The study found that adolescent girls received instrumental support from their caregivers as they were observing the instructed menstrual rituals. In the contemporary community context, it seemed at least visible forms of discrimination against menstruating girls were no longer tolerated with the criminalisation of *Chhaupadi* and menstrual health-related interventions are in progress. Caregivers were asked to provide support for adolescent girls to observe their religio-cultural menstrual practices, especially when the rituals at home prevent girls from performing routine tasks.

"When my daughter said she would like to discontinue the rituals, like not entering the kitchen, I reminded her to keep observing rules. I said: "I will make food for you as you are not supposed to violate the rules"." (Mother 1)

"I have told my daughter-in-law and granddaughter that I will cook food for them and feed them so that during menstruation they do not need to come into the kitchen." (Grandmother 8)

One participant's comment regarding her perceptions of menstrual health intervention indicated that the locals might perceive or interpret some menstrual rituals as social support rather than an enacted stigma by the concerned individual.

"I think the campaign against Chhaupadi is very nice. It is the right move. But for campaigns advocating for the abolishment of all restrictions... hmmm.... I don't know.... honestly. I do not want to enter the kitchen to cook food for myself nor do I want to feed others when I am menstruating (smile). I like other people feeding me while I am menstruating." (Mother 3)

4) Proximal level: Caregivers' parental beliefs about religio-cultural menstrual practices

While all of the caregivers shared their hopes and expectations for the environment that promotes menstrual health and hygiene for their (grand) daughters; many wished that their daughter would consistently adhere to at least a few of the religio-cultural menstrual practices like not going to the temple, not touching the god/goddess or not entering the kitchen during menstruation for the sake of their own and the family's well-being and social integrity.

"I do not want my daughter to abide by any restrictions except for not going to temple and kitchen in her later life. ... She should not do so... If she resists [to observe the rituals], I will tell her that she must follow the rituals because everybody else is following the same." (Mother 1)

"We need to adapt to changes coming with time. But if my daughter-in-law said she will not follow the rules, I will tell her "You cannot just stop observing the rituals. If we stop practicing menstrual separation, we may fall sick. Only when someone can guarantee for sure we will not fall sick [due to our deeds], may we stop practicing the restrictions"." (Grandmother 3)

The caregivers added that the parenting practice is based on what their own (grand)parents or in-laws taught them and how pertinent information had been taught since they experienced menarche.

In the meantime, the caregivers consistently reported that their knowledge and awareness regarding their roles and responsibilities when supporting their (grand)daughters' menstrual health had improved. Many described supporting the menstrual health and hygiene of their menstruating children by supplying hygiene materials, preventing them from bearing a physically heavy workload and providing nutritious food as the major role expectations of parents and grandparents.

5) Distal level: Perceived behavioural control of the caregivers & Perceived role of the (grand)mother as caregiver

There was no specific question asked during the interview to explore the distal level interpersonal factor affecting the local adolescent girls' religio-cultural menstrual practice. However, the caregivers' discourse on their parenting experiences provided clues for the distal level parental factors that would have an impact on adolescents' religio-cultural menstrual practices.

6) Perceived behavioural control of the caregivers

Both mothers and grandmothers presented a low level of behavioural control in parenting adolescent children. When narrating their parenting experiences and pertaining perceptions, caregivers repetitively referred to the defiant nature of the younger generation and indicated a low sense of parental self-efficacy.

"Children these days are so defiant and stubborn. While she has not yet raised any issues directly to my face, I know that they are hardly obeying the elderly's words (laughing)." (Grandmother 4)

"My daughter bluntly asked me like 'why it is necessary to practice all of these restrictions and she often complains about not being allowed to enter the kitchen or temple during menstruation. While I try to reply, I know she is not listening to me carefully...she does not comply with my words.'" (Mother 7)

7) Perceived role of the (grand)mother as a caregiver

When nurturing the children, local (grand)parents focused exclusively on supporting the child's social integration rather than developing their sense of independence and self-concept. Mothers and grandmothers perceived the transmission of cultural traditions and community norms to the next generation as the major role of the parents. Many participants described the complacent nature of the children as virtuous. All mothers and grandmothers demonstrated intentions to discourage their children to behave differently from the others.

"I think my daughter won't follow any menstrual rules after 10 years. ... yes... God would get angry about the change but...what can I do? Change happens and

we must adapt to the change. Still, I cannot tell my daughter or granddaughter to go break the community rules." (Mother 7)

"I told her that if she does not observe the menstrual rituals, community people will say bad things about us and, my granddaughter follows the instruction taught by her mother and me. She is a good child, very obedient!" (Grandmother 8)

3. Family-as-a-whole Subsystem

The third theme reflects the elaborated family-level interactions in relation to the adolescents' religio-cultural menstrual practices. The study identified four overarching family system factors that influence the adolescents' development of religio-cultural menstrual practices in the family context: family level support provided to girls who are observing menstrual rituals, the family climate surrounding female members' observance of menstrual rituals, family functioning and physical co-habitation status of the extended family.

1) Immediate level: Family level support provided to girls observing menstrual rituals

The study identified that family-level support was provided to the female members observing the menstrual rituals. The characteristics of the support were the same as the support that major caregivers said they were providing to the adolescent girls when they observe menstrual rituals. The caregivers reported that when their menstruating child has any issue as they observe menstrual rituals, female members of the family, primarily the grandmother, mother, sister, sister-in-law and cousin-sister, provide any required support. The participation of male family members such as fathers and brothers in providing support was occasionally reported.

"When menstruating family members have any problem [as they are practicing menstrual rituals], any family member who is available supports her. That includes me, my husband and my mother-in-law." (Mother 1)

Many mothers and grandmothers recalled their childhood memories and shared that they had hardly received any support from their own grandmother, mother and/or mother-in-law as they were observing the rituals. Only a few said they were supported by their mother, female cousins, or friends during their period. Instead, the participants reported that they had experienced punitive discipline (e.g., nagging, scolding etc.) from their grandmother, mother and/or mother-in-law mostly as they observed menstrual rituals.

2) Proximal level: Family climate surrounding female members' observance of menstrual rituals

Caregivers reported that mothers and/or grandmothers set the tone of the familial menstrual health climate. Accordingly, the list of ritual restrictions and expected level of adherence to the menstrual rituals were largely decided by mothers and/or grandmothers. The families equally described how the female elders in the family set the ground rules pertaining to rituals, while the female primary caregiver of the adolescent was made primarily responsible for the monitoring the observance of adolescents' religio-cultural menstrual practices and providing necessary support. While many mothers were referring to their mother-in-law's expectations on religio-cultural menstrual practices for their own religio-cultural menstrual practices and pertinent parenting practices, the grandmothers' expectations had only limited influence in practice. The mothers reported that it is mostly their expectations of religio-cultural menstrual practices that predominantly rule the religio-cultural menstrual practices of adolescent girls.

"My mother-in-law used to scold me and my daughter, complaining that I am not properly observing the ritual restrictions on menstruating women and touching here and there, which is undesirable... Usually, it [=the familial conflict] settles down on its own (smile). She kept on telling me and my daughter things and we kept on doing as per our wishes (laugh)." (Mother 7)

Nevertheless, depending on the frequency of grandmother-child interactions, grandmothers were playing an active role in monitoring. They were also able to instil their own expectations to the adolescents in terms of nagging as well. A few families reported that grandfathers and fathers had intervened to relax the

menstrual ritual restrictions. However, in most cases, those male members were not considered to be valid decision-makers when it comes to menstruation-related issues.

Most participants reported that the connotation of ‘untouchability’ for menstruating women had been mostly removed from their families’ understanding of menstruation. Likewise, many reported that no member of their family is currently reluctant to provide needful support to adolescent girls as they observe menstrual rituals. However, a few families shared that the family elders still resist being touched by menstruating women.

3) Distal level: Family functioning & Physical co-habitation status of the extended family

The caregivers’ discourse on their family provided contextual clues for the distal level family system factors that would have an impact on adolescents’ development and the performance of religio-cultural menstrual practices.

4) Family functioning¹⁾

Caregivers’ discourse regarding their experience living in an extended family indicated a vertical family hierarchy between generations reflecting respect for the elderly, a common-law in Nepalese culture. Simultaneously, decreasing parental autonomy and increasing youth autonomy in parent-child interactions was detected. Mothers and grandmothers shared that they had experienced frustration and a low sense of competence in parenting while encountering their daughters to be assertive. The younger generation, on the other hand, was trying to get on their way via the imperceptible violation of the family rules set by the older generations to avoid conflict with the older generation. The discourse also implied low female status in the family with household chores disproportionately distributed among female members of the family.

“The duration of the [menstrual] rituals depends on the family responsibility and workload imposed on the menstruating women, such as if there is someone to

1) Family functioning refers to a ‘complex phenomenon describing structural and organizational properties of a family group and the patterns of interactions between the group’s members’ (Haines et al., 2016).

help and support her at home. If the woman does not have anyone to support her, they take a bath on day 3 and enter the kitchen on day 4." (Mother 4)

5) Physical co-habitation status of the extended family

The local extended families can be categorised into two types depending on grandmothers' co-habitation status with mothers and adolescents in the same household. Among the eight families who participated in the study, mothers from two families reported that they were living with their mother-in-law, the grandmothers, who also participated in the study.

IV. DISCUSSION

The purpose of the study was to identify family factors surrounding the religio-cultural menstrual practices and contribute to development of an effective menstrual health interventions in far-west Nepalese communities by explaining the expected facilitators and barriers to implementation.

The study found that family climate contributed to the construction of a social environment for menstruating adolescent girls in a family setting in this rural community. These findings made it possible to extend the implications of the family health climate on adolescents' health and risk behaviours to another level found from many other studies of health promotion (Niermann et al., 2018).

The shared discourses of caregivers regarding their own experiences with religio-cultural menstrual practices, pertinent parenting practices and the familial menstrual health climate were used to identify family environmental factors. The study confirmed the integral roles that mothers and grandmothers play in supervising female family members' menstrual experiences in the local community. The finding is congruent with the findings in relevant studies (Crawford et al., 2014; GNI Nepal, 2020; Rothchild & Piya, 2020; Thapa et al., 2019). Furthermore, the study also found circumstantial evidence that caregiver- adolescent interactions regarding religio-cultural menstrual practices affect adolescent girls' religio-cultural menstrual practices. Accordingly, the study identified twelve family factors, which can be categorised into three major themes that appear to shape the overarching qualities of the adolescent girls' religio-cultural menstrual practices.

The study found individual- and interpersonal family factors that had immediate- and proximal-level influences on the local adolescents' culture-linked behaviours that are relevant to how the adolescents' learned, adopted and generally performed the menstrual rituals. The process by which these family factors have contributed to the local adolescents' development of religio-cultural menstrual practices is believed to be best explained by a theory of cultural learning (Tomasello, 2016; Tomasello et al., 1993) in two respects. On the one hand, the adolescents' adoption of religio-cultural behaviours seemed relevant to the caregivers' observance of menstrual rituals and caregiver-adolescent menstrual ritual-related communication. In this vein, imitative learning and instructed learning, per cultural learning theory, provide the most plausible explanations (Tomasello, 2016). Demonstrated observance of menstrual rituals by mothers and grandmothers is believed to have a modelling effect on their adolescent children's development of religio-cultural menstrual practices. Indeed, many caregivers stated that observational learning is one of the primary modalities of how women in the community, including themselves, develop their religio-cultural menstrual practices. Moreover, study participants commonly recalled that, although their religio-cultural menstrual practices have changed over time, the instructions they received from their mothers or mothers-in-law undergirded their contemporary menstrual rituals. Likewise, caregivers shared that they have provided verbal instruction about menstrual rituals to adolescent children as they experienced menarche.

On the other hand, individual factors like the manifested compliance of the caregivers with the traditional ritual restrictions and interpersonal factors, such as nagging at adolescents to comply with traditional menstrual practices seemed to pose a normative pressure on adolescents to conform to family rules and practices (Tomasello, 2016). The religio-cultural menstrual practices of the caregivers also affected the adolescents' continuous observance of religio-cultural practices. Witnessing the other female family members observing menstrual rituals seemed to discourage the adolescents from resisting them. The finding suggests that the more robust a caregivers' adherence to menstrual rituals is, the more psychologically challenging it becomes for adolescent girls to resist and discontinue the observance of the menstrual rules and restrictions. Likewise, while almost all study participants commonly described the young generation as 'rebellious and

opinionated', many mothers reported that, by and large, their daughters observe menstrual rituals and have not completely deviated from family rules. Furthermore, all caregivers, except for one mother, said that they occasionally monitored their (grand)daughters' observance of menstrual rituals and nagged and scolded the child for their insincere observance of the rules. Most participants also reported minor quarrels with their irritated (grand)children, followed by the nagging. This punitive discipline, coupled with negative caregiver-child interactions, might be responsible for the tension and ambivalence that the local adolescents were reported to have felt when attempting to resist traditional restrictions and undermine the discriminative menstrual beliefs (GNI Nepal, 2020; Thapa et al., 2019). Additionally, interpersonal family factors such as parental monitoring on the menstrual practices seemed to have an immediate effect on the local adolescents' attempts to discontinue observing religio-cultural menstrual practices and resist these cultural traditions.

Moreover, the individual factors of caregivers that have proximal level influence - such as the caregivers' understanding of and perspectives on religio-cultural menstrual practices - seemed to be reflected in their parenting practices; they transmit family menstrual rules and rituals to their children. In particular, the caregivers' motivations to observe religio-cultural menstrual practices and their attitudes toward the cultural changes in those practices were relevant to the caregivers' parenting norms regarding their (grand)daughters' religio-cultural menstrual practices. For instance, the caregivers, who had observed the religio-cultural menstrual practices motivated by the fear of negative consequences of violating the rituals, explained that they taught their (grand)daughters the rituals out of the fear that something negative would happen to them and the families if their (grand)daughters violated the rituals.

Proximal level interpersonal family factors such as the caregivers' perceived role in promoting religio-cultural menstrual practices among their (grand)daughters and their perceived importance were relevant the adolescents' religio-cultural menstrual practices. Cognitive factors in parenting could be expected to precede the relevant parenting behaviours and influence caregiver-child interaction patterns and children's behaviours (Niermann et al., 2018). Likewise, the perceived importance of their (grand)children observing religio-cultural menstrual practices

was expected to influence how devoted caregivers were to the transmission of the menstrual rituals via parenting practices. However, the caregivers presented fair knowledge and an awareness of the importance of the adolescents' menstrual health and menstrual health rights. They also reported that they had applied this knowledge and their improved awareness in their parenting practices by providing needed support to their menstruating (grand)daughters. This is congruent with a finding from cross-cultural psychology study that highlights the importance of caregivers' understandings of the cultural norms to intergenerational cultural transmission (Tam, 2015).

Furthermore, it is noteworthy that all caregivers habitually compared their children's menstrual experiences to their own childhood experiences during the interview. Consequently, they were inclined to downplay the hardship and distress that their menstruating daughters might experience during their period. This cognitive tendency seemed relevant to the caregivers' unresponsive attitude and reactions to their (grand)daughters' complaints about the menstrual rituals they had been observing. The caregivers' opinions on dramatic relaxation of the ritual restrictions that menstruating women observe may have also influenced their opinions that there is no need for changes in the menstrual climate that adolescent girls face at home and in the community. This finding advances the implications of the earlier findings from Crawford et al. (2014) and Rothchild and Piya (2020) about the community women's perceptions on changing nature of community's menstrual rituals. According to the interviews, caregivers' perceptions on the cultural changes in menstrual rituals are likely to affect their pertinent parenting attitudes and practices.

The immediate level interpersonal- and family-as-a-system factors of the caregivers, such as the support they provided to adolescents who were observing menstrual rituals, were suspected to have played a role in the adolescents' performance of the rituals. The presence of social support for these adolescents reflects the complexity of addressing traditional beliefs and pertinent ritual restrictions. For instance, while most of the adolescents' caregivers agreed that it is wrong to discriminate against girls and women based on their menstrual status, many caregivers considered some menstrual ritual restrictions to be virtuous traditions. They interpreted these practices as a form of social support provided

to menstruating female family members and refused to abolish the traditions (e.g., because girls are not allowed to enter the kitchen during their period, family members are expected to feed them). In this regard, the author also noted that lack of familial support during menstruation caused the girls and women to violate the religio-cultural menstrual practices. The finding was congruent with Rothchild & Piya's (2020) study on how religio-cultural menstrual practices can be altered to serve practical purposes. Two interviewees who were flexible in their observance of the menstrual ritual of not entering the kitchen explained that they used the kitchen when there was no one at home to cook for them.

The distal level family environmental factors seemed to function as a high-level moderator of the adolescents' development and performance of religio-cultural menstrual practices (Niermann et al., 2018). The findings suggested that the caregivers, who are more likely to seek others' approval for their behaviours, exhibit a high level of agreeableness and a low level of openness; thus, one would expect them to be more likely to compel their (grand)children to comply with menstrual rituals and encourage them to develop and perform the religio-cultural menstrual practices. It supports a mainstream argument presented in parenting studies regarding the substantial influence that caregivers' psychological variables have on a child's or adolescent's development and the maintenance of behavioural patterns (Niermann et al., 2018; Prinz et al., 2009; Prinzie et al., 2009; Vafaeenejad et al., 2019).

Furthermore, the caregivers who participated in the study exhibited a low level of parental self-efficacy and tended to view the (grand)children's integration into society as the goal of nurturing their (grand)children. At the same time, most caregivers reported a low sense of agency and external locus of control regarding the perceived changes in religio-cultural menstrual practices to date. These findings suggest that unless the identified factors are addressed, it will be difficult to mobilise local caregivers to promote adolescent girls' menstrual health, as the caregivers are unlikely to understand nor accept their role as active agents of change. This will eventually compromise community participation in the menstrual health interventions in the concerned community. Considering the importance of community participation in successful community health interventions (Haldane et al., 2019), increasing the sense of agency among caregivers to implement cultural

changes and improve their parental self-efficacy are required for effective menstrual health interventions.

Co-habitation with the members of older generation seemed to influence which set of expectations of menstruating women govern a family's menstrual rituals. Among grandmothers who lived with their granddaughters, the grandmothers' menstrual beliefs were prioritised over the mothers'; the grandmother and mother co-developed the family's menstrual rituals that adolescents were obliged to observe. However, when grandmothers lived separately from their granddaughters, the adolescent girls' mothers or foster mothers were almost exclusively responsible for setting the family's menstrual rituals.

The study findings also indicated that the characteristics of menstrual rituals that female family members are obliged to observe were influenced substantially by the family culture in general. High parental authority coupled with low youth autonomy and the authoritarian and controlling nature of caregivers' interaction with other family members seemed to affect the socio-cultural environment in which the adolescents developed and practised the menstrual rituals. According to the findings, while members of the older generation resisted cultural changes to family structure, members of the younger generations were willing to relax the menstrual restrictions to some extent. The younger generations in the families were imperceptibly violating their family's menstrual rituals in an apparent effort to avoid familial conflict. In that vein, the study captured *intergenerational tension between tradition and modernity*, which can be defined as 'the expected difficulties the younger generation with high knowledge and awareness of menstrual health may experience as they attempt to have communication with the older generations and break cultural traditions' (Thapa et al., 2019). The differences in perspectives on and adherence to religio-cultural menstrual practices among members of different generations seemed to fuel inter-generational tensions between female family members in the participants from rural Nepalese communities, as suggested earlier by Crawford et al. (2014). Moreover, during her field research, the author was keenly aware of the strong collectivist culture among the participants, with the family being at the core of the collectivism (Evason, 2017; Hofstede Insights, n.d.). In a collectivist culture, where 'adolescents are encouraged to stay safe as part of a network of family members

and friends who provide support and hold individuals accountable for the impact of personal decisions on the community' (Lescano et al., 2009: 1048), adolescents are highly likely to face challenges in their attempts to deviate from traditional norms and the adoption of attitudes and behaviours that promote their health and well-being in the long run (Lescano et al., 2009).

Admittedly, this study has some limitations. First, the small number of participants, all of whom were recruited via convenience sampling, may not be fully representative of the entire population in the concerned community. For instance, caregivers from different ethnic, age, or socio-economic groups in the community may have exhibited different family factors that influence adolescents' religio-cultural menstrual practices. Nevertheless, the author found that the data she had collected reached a saturation point with the recruited sample. Moreover, translating of the interview guide from English to Nepali and the interview transcripts from Nepali to English may have affected the delivery of the questions and interpretation of the primary data. However, to tackle these problems, a trained local research assistant who speaks fluent English was hired for the study; she translated the documents in close collaboration with the author. Furthermore, repetitive quality checks to ensure the veracity of the translations occurred throughout the study process.

Despite these limitations, this study is the first to investigate how family (sub)systems contribute to the transmission of religio-cultural menstrual practices. By identifying family environmental factors that may have an effect on these practices, the study advances knowledge about how families in far-west Nepal shape the religio-cultural menstrual practices of adolescent girls. The findings confirm those of previous studies indicating that family context matters in the evolution of religio-cultural menstrual practices in Nepal (Hennegan et al., 2019; Plesons et al., 2021; Rothchild & Piya, 2020; Thapa et al., 2019). This study stresses the need to move beyond an individualised approach (e.g., focusing exclusively on individuals' knowledge and awareness) to a more holistic and local context-sensitive framework in developing interventions for menstrual health in rural communities in Nepal (Thapa & Aro, 2021; Thomson et al., 2019). By providing a broader perspective that can be used to explore how religio-cultural menstrual practices evolve in the family setting using the LIFES framework

(Niermann et al., 2018), the study highlights the relevance of the LIFES framework to future studies in this area. The study indicates that there were two prominent features of the local families in the community under study: *the complex relationship among family members* and *the shared child-rearing responsibilities of different family members, which were not limited to biological parents* (Bester & Malan-Van Rooyen, 2015). Consequently, studying family factors for the promotion of health in the rural Nepalese context, where extended family prevails, requires researchers to adopt a theoretical framework that facilitates the exploration of family environmental factors that are not limited to individual or parent-child interpersonal factors. These findings validated the cultural responsiveness of the LIFES framework when studying the family environmental factors of the local adolescents' culturally oriented behaviours. The framework promotes the exploration of all family factors, not just parental factors.

Based on the findings, the author recommends Nepalese government, donor agencies and international and local organisations working for menstrual health promotion to base their interventions on family- and community-based approaches to abolish menstrual restrictions. In that vein, those who have direct and indirect impacts on community female decision making in their menstrual practices shall be mapped with their roles and levels of influence identified and engaged from the early stages of intervention development. Moreover, practical applications of menstrual health interventions should include activities that can address interpersonal- and family-level factors that contribute to development and performance of the community's cultural menstrual practices. For instance, parenting interventions for local caregivers with pre-menstrual and menstruating children that guides the participants on when and how to provide physical and psychological support for menstruating children and training community leaders on how to facilitate community-wide discussions on culturally-sensitive issues including the perpetuation of menstrual ritual restrictions in the community would likely to add value to the effectiveness of menstrual health interventions (Rothchild & Piya, 2020; Thapa & Aro, 2021). Furthermore, the author calls for more rigorous research to be conducted on family environment factors that affect menstrual practices to fuel pertinent intervention development. Studies on the perception and roles of men and boys in the development and performance of menstrual

ritual restrictions and quantitative research that probes the relationship between family factors identified in this study and adolescents' religio-cultural menstrual practices, as well as interactions between the identified factors, are highly recommended.

V. CONCLUSION

Ritual restrictions on menstruating populations that are based on menstrual stigma have substantial impacts on the health and well-being of these individuals and equity societies that enforces these restrictions (Thomson et al., 2019). This study of family environmental factors relevant to Nepali adolescents' development and performance of religio-cultural menstrual practices highlights the significance of the family setting in understanding the cultural construction of menstrual beliefs and practices. Furthermore, the findings confirm that family factors at different subsystems and levels of influence interact with each other in a way that may facilitate or impede adolescents' resistance to traditional menstrual beliefs and relevant religio-cultural practices. Accordingly, the study calls attention to the need for comprehensive interventions to promote menstrual health in Nepal that incorporate the family components as key elements of the interventions. These interventions ought to be developed based on a contextualised understanding of the menstrual health climate in local families. Menstrual health interventions that take local family system factors into account are believed to increase the effectiveness of these interventions and the implementation process. It is the author's hope that the findings elaborated in this study serve as a useful reference for the development of effective interventions to promote menstrual health and hygiene in rural Nepalese communities.

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REFERENCES

- Amatya, P., Ghimire, S., Callahan, K. E., Baral, B. K., & Poudel, K. C. (2018). Practice and lived experience of menstrual exiles (Chhaupadi) among adolescent girls in far-western Nepal. *PLOS ONE*, *13*(12), e0208260.
- Barrington, D. J., Robinson, H. J., Wilson, E., & Hennegan, J. (2021). Experiences of menstruation in high income countries: A systematic review, qualitative evidence synthesis and comparison to low- and middle-income countries. *PLOS ONE*, *16*(7), e0255001.
- Bester, S., & Malan-Van Rooyen, M. (2015). Emotional development, effects of parenting and family structure on. In J. D. Wright (Ed.), *International encyclopedia of the social & behavioral sciences* (2nd ed., pp. 438-444). Amsterdam, Netherland: Elsevier.
- Crawford, M., Menger, L. M., & Kaufman, M. R. (2014). 'This is a natural process': Managing menstrual stigma in Nepal. *Culture, Health & Sexuality*, *16*(4), 426-439.
- Evason, N. (2017). Nepalese culture. Cultural Atlas [Website]. Retrieved from <https://culturalatlas.sbs.com.au/nepalese-culture/nepalese-culture-family>
- Deutsche Gesellschaft für Internationale Zusammenarbeit [GIZ]. (2019, May 3). Nepal's menstrual movement: How 'MenstruAction' is making life better for girls and women in Nepal - month after month [Website]. Retrieved from <https://www.giz.de/en/downloads/giz2019-en-nepals-menstrual-movement.pdf>
- Garney, W., Wilson, K., Ajayi, K. V., Panjwani, S., Love, S. M., Flores, S., Garcia, K., & Esquivel, C. (2021). Social-ecological barriers to access to healthcare for adolescents: A scoping review. *International Journal of Environmental Research and Public Health*, *18*(8), 4138.
- Good Neighbors Internaitonal Nepal [GNI Nepal]. (2020). *Adolescent girls' awareness*

on rights related to MHM and its relation with their risk perception, self-efficacy, and behavior pertinent to MHM. Lalitpur, Nepal: Good Neighbors International Nepal.

- Haines, J., Rifas-Shiman, S. L., Horton, N. J., Kleinman, K., Bauer, K. W., Davison, K. K., Walton, K., Austin, S. B., Field, A. E., & Gillman, M. W. (2016). Family functioning and quality of parent-adolescent relationship: Cross-sectional associations with adolescent weight-related behaviors and weight status. *The International Journal of Behavioral Nutrition and Physical Activity*, 13, 68.
- Haldane, V., Chuah, F. L. H., Srivastava, A., Singh, S. R., Koh, G. C. H., Seng, C. K., & Legido-Quigley, H. (2019). Community participation in health services development, implementation, and evaluation: A systematic review of empowerment, health, community, and process outcomes. *PLOS ONE*, 14(5), e0216112.
- Hennegan, J., & Montgomery, P. (2016). Do menstrual hygiene management interventions improve education and psychosocial outcomes for women and girls in low and middle income countries? A systematic review. *PLOS ONE*, 11(2), e0146985.
- Hennegan, J., Shannon, A. K., Rubli, J., Schwab, K. J., & Melendez-Torres, G. J. (2019). Women's and girls' experiences of menstruation in low- and middle-income countries: A systematic review and qualitative metasynthesis. *PLOS Medicine*, 16(5), e1002803.
- Hennegan, J., Winkler, I. T., Bobel, C., Keiser, D., Hampton, J., Larsson, G., Chandra-Mouli, V., Plesons, M., & Mahon, T. (2021). Menstrual health: A definition for policy, practice, and research. *Sexual and Reproductive Health Matters*, 29(1): 1911618-1911618.
- Hofstede Insights. (n.d.). What about Nepal? Hofstede Insights [Website]. Retrieved from <https://www.hofstede-insights.com/country/nepal/>
- Kadariya, S., & Aro, A. R. (2015). Chhaupadi practice in Nepal – analysis of ethical aspects. *Medicolegal and Bioethics*, 2015(5), 53-58.
- Karki, K. B., Poudel, P. C., Rothchild, J., Pope, N., Bobin, N. C., Gurung, Y., & Sherpa, L. (2017). Scoping review and preliminary mapping menstrual health and hygiene management in Nepal. Population Services International Nepal [Website]. Retrieved from https://menstrualhygieneday.org/wp-content/uploads/2017/09/PSI_Scoping-Review-and-Preliminary-Mapping-of-Menstrual-Health-in-Nepal-Final.pdf
- Kegler, M. C., Rigler, J., & Honeycutt, S. (2011). The role of community context in planning and implementing community-based health promotion projects.

- Evaluation and Program Planning*, 34(3), 246-253.
- Khatri, R. B., Mishra, S. R., & Khanal, V. (2017). Female community health volunteers in community-based health programs of Nepal: Future perspective. *Frontiers in Public Health*, 5, 181.
- Kok, M. C., Kane, S. S., Tulloch, O., Ormel, H., Theobald, S., Dieleman, M., Taegtmeier, M., Broerse, J. E. W., & de Koning, K. A. M. (2015). How does context influence performance of community health workers in low- and middle-income countries? Evidence from the literature. *Health Research Policy and Systems*, 13, 13.
- Lescano, C. M., Brown, L. K., Raffaelli, M., & Lima, L. A. (2009). Cultural factors and family-based HIV prevention intervention for Latino youth. *Journal of Pediatric Psychology*, 34(10), 1041-1052.
- Marván, M. L., & Molina-Abolnik, M. (2012). Mexican adolescents' experience of menarche and attitudes toward menstruation: Role of communication between mothers and daughters. *Journal of Pediatric and Adolescent Gynecology*, 25(6), 358-363.
- McPherson, M. E., & Korfine, L. (2004). Menstruation across time: Menarche, menstrual attitudes, experiences, and behaviors. *Women's Health Issues*, 14(6), 193-200.
- Mehtälä, M. A. K., Sääkslahti, A. K., Inkinen, M. E., & Poskiparta, M. E. H. (2014). A socio-ecological approach to physical activity interventions in childcare: A systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, 11, 22.
- Mukherjee, A., Lama, M., Khakurel, U., Jha, A. N., Ajose, F., Acharya, S., Tymes-Wilbekin, K., Sommer, M., Jolly, P. E., Lhaki, P., & Shrestha, S. (2020). Perception and practices of menstruation restrictions among urban adolescent girls and women in Nepal: A cross-sectional survey. *Reproductive Health*, 17, 81.
- Niermann, C. Y. N., Gerards, S. M. P. L., & Kremers, S. P. J. (2018). Conceptualizing family influences on children's energy balance-related behaviors: Levels of interacting family environmental subsystems (the LIFES framework). *International Journal of Environmental Research and Public Health*, 15(12), 2714.
- Pandit, C., Singh, A. K., Parajuli, A., & Pandey, A. (2021). Misconception and effect of menstruation (Chhaupadi) and delivery on women's health in Bajura, district Nepal. *Europasian Journal of Medical Sciences*, 3(1), 24-29.
- Plesons, M., Patkar, A., Babb, J., Balapitiya, A., Carson, F., Caruso, B. A., Franco, M.,

- Hansen, M. M., Haver, J., Jahangir, A., Kabiru, C. W., Kisangala, E., Phillips-Howard, P., Sharma, A., Sommer, M., & Chandra-Mouli, V. (2021). The state of adolescent menstrual health in low- and middle-income countries and suggestions for future action and research. *Reproductive Health, 18*, 31.
- Prinz, R. J., Sanders, M. R., Shapiro, C. J., Whitaker, D. J., & Lutzker, J. R. (2009). Population-based prevention of child maltreatment: The U.S. triple p system population trial. *Prevention Science, 10*(1), 1-12.
- Prinz, P., Stams, G. J. J. M., Deković, M., Reijntjes, A. H. A., & Belsky, J. (2009). The relations between parents' big five personality factors and parenting: A meta-analytic review. *Journal of Personality and Social Psychology, 97*(2), 351- 362.
- Ranabhat, C., Kim, C. B., Choi, E. H., Aryal, A., Park, M. B., & Doh, Y. A. (2015). Chhaupadi culture and reproductive health of women in Nepal. *Asia Pacific Journal of Public Health, 27*(7), 785-795.
- Rothchild, J., & Piya, P. S. (2020). Rituals, taboos, and seclusion: Life stories of women navigating culture and pushing for change in Nepal. In C. Bobel, I. T. Winkler, B. Fahs, K. A. Hasson, E. A. Kissling, & T. A. Roberts (Eds.), *The palgrave handbook of critical menstruation studies* (pp. 915-929). Singapore: Palgrave Macmillan.
- Shannon, A. K., Melendez-Torres, G. J., & Hennegan, J. (2021). How do women and girls experience menstrual health interventions in low- and middle-income countries? Insights from a systematic review and qualitative metasynthesis. *Culture, Health & Sexuality, 23*(5), 624-643.
- Sommer, M., Caruso, B. A., Sahin, M., Calderon, T., Cavill, S., Mahon, T., & Phillips-Howard, P. A. (2016). A time for global action: Addressing girls' menstrual hygiene management needs in schools. *PLOS Medicine, 13*(2), e1001962.
- Sommer, M., & Sahin, M. (2013). Overcoming the taboo: Advancing the global agenda for menstrual hygiene management for schoolgirls. *American Journal of Public Health, 103*(9), 1556-1559.
- Tam, K. P. (2015). Understanding intergenerational cultural transmission through the role of perceived norms. *Journal of Cross-Cultural Psychology, 46*(10), 1260-1266.
- Thapa, S., & Aro, A. R. (2021). 'Menstruation means impurity': Multilevel interventions are needed to break the menstrual taboo in Nepal. *BMC Women's Health, 21*(1), 84.
- Thapa, S., Bhattarai, S., & Aro, A. R. (2019). 'Menstrual blood is bad and should be cleaned': A qualitative case study on traditional menstrual practices and contextual factors in the rural communities of far-western Nepal. *SAGE Open Medicine, 7*,

2050312119850400.

- Thomson, J., Amery, F., Channon, M., & Puri, M. (2019). What's missing in MHM? Moving beyond hygiene in menstrual hygiene management. *Sexual and Reproductive Health Matters*, 27(1), 1684231.
- Tomasello, M. (2016). Cultural learning redux. *Child Development*, 87(3), 643-653.
- Tomasello, M., Kruger, A. C., & Ratner, H. H. (1993). Cultural learning. *Behavioral and Brain Sciences*, 16(3), 495-511.
- Trommsdorff, G. (2008). Intergenerational relations and cultural transmission. In U. Schönplflug (Ed.), *Introduction to cultural transmission: Psychological, developmental, social, and methodological aspects* (pp. 126-160). Cambridge, UK: Cambridge University Press.
- United Nations Children's Fund [UNICEF]. (2018, April). Analysis of menstrual hygiene practices in Nepal: The role of WASH in schools programme for girls education 2016 [Website]. Retrieved from <https://www.unicef.org/nepal/media/336/file/ANALYSIS%20OF%20MENSTRUAL%20HYGIENE%20PRACTICES%20IN%20NEPAL.pdf>
- United Nations Children's Fund [UNICEF]. (2021). Technical note: Gender-responsive parenting [Website]. Retrieved from https://www.unicef.org/eca/media/16436/file/Gender_Responsive_Parenting.pdf
- United Nations Nepal [UN Nepal]. (2020, January). Harmful practices in Nepal: Report on community perceptions [Website]. Retrieved from https://un.org.np/sites/default/files/doc_publication/2021-02/HP_perception_survey_0.pdf
- Vafaeenejad, Z., Elyasi, F., Moosazadeh, M., & Shahhosseini, Z. (2019). Psychological factors contributing to parenting styles: A systematic review. *F1000Research*, 7:906.
- World Population Review. (2022). Hindu countries 2022. World population review [Website]. Retrieved from <https://worldpopulationreview.com/country-rankings/hindu-countries>
- Yilmaz, S. K., Bohara, A. K., & Thapa, S. (2021). The stressor in adolescence of menstruation: Coping strategies, emotional stress & impacts on school absences among young women in Nepal. *International Journal of Environmental Research and Public Health*, 18(17), 8894.

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