

Research Article

WHEN COMMUNITIES FACE MALNUTRITION: HOW CONTEXT SHAPES THE FACTORS RELATED TO RELEVANT HEALTH ADVICE IN NEPAL

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While programmes to combat malnutrition and to lower barriers to healthcare have been developed, some children with severe acute malnutrition do not benefit at the level necessary for their condition. In this context, community health advice could help caregivers provide the required support for their children. This paper argues that community psychology is well-situated to address the issue of malnutrition. To do this, we present the results from a questionnaire survey which study looked at this issue in Nepal, with the aim of examining which factors are associated with relevant health advice from community members. The data was collected through a questionnaire measuring individual variables (beliefs, emotions) and contextual variables (perceived emotions by community members, level of wealth, access to communication, beliefs in traditional healing by the female community health volunteer) carried out in two distinct Nepalese districts: Saptari and Nuwakot. The results indicate that factors related to health advice differed in the two districts, and the role of access to communication was even the opposite. The best predictors were not found at an individual level, but at a contextual level (e.g. perceived emotions by community members, access to communication, etc.). These findings suggest that malnutrition would be better tackled by acting at a more global level, i.e. targeting representations associated to malnutrition and circulating at the national and community level and empowering communities. Thus, community psychology might offer a refreshed and relevant way to approach malnutrition.

Keywords: malnutrition, health advice, Nepal, beliefs, emotion, community

1. Introduction

While child malnutrition has slightly decreased worldwide, recent trends are quite alarming. In 2022, about 45 million children under the age of five (6.8% of the global population of this age) were affected by acute malnutrition, of which 13.6 million (2.1%) suffered from severe acute

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malnutrition (SAM). This life-threatening form of malnutrition is more frequent in Asia, where it affects more than three-quarters of all acutely malnourished children (UNICEF, WHO & World Bank Group, 2023). Nepal, which is among the lowest income countries in Asia, has shown limited progress towards achieving global nutrition targets for acute malnutrition (Adhikari et al., 2023). Some 12% of children under the age of five in Nepal are affected, which is higher than the average in Asia (8.9%) and among the highest in the world (Global Nutrition Report, 2022). Despite concerted efforts by Nepal's government, including the implementation of a variety of policies and multisectoral nutrition plans, child malnutrition remains a public health equity issue that is challenging to address (Adhikari et al., 2023).

This paper illustrates that community psychology might be well-situated to provide new ways to address malnutrition. To do this, we first present the context in which this study was conducted and how social representations might support a community psychology approach. Then, we present results from a questionnaire survey conducted in two different Nepalese districts. The results evidenced (1) that, in case of malnutrition, relevant health advice by community members are rare and (2) that the factors related to health advice are to be found at community level rather than at individual level. These main results thus invite to recognize and integrate the role of context (Jason, et al., 2016) when developing nutrition programmes and opens the avenue for community psychology addressing malnutrition and empowering communities.

2. Community-based management of acute malnutrition in Nepal

Numerous initiatives have shown that acute malnutrition can be prevented and tackled contextually by addressing a wide range of aspects. Malnutrition is a complex issue which is associated with multifaceted and multilayered factors, and which can interact with areas such as health, sanitation, early child care practices, food security and nutrition governance, starting from individual to governmental level. Community-based management of acute malnutrition (CMAM) programmes have been developed in order to tackle well-known barriers related to SAM treatment at hospital level, which are expensive and have limited coverage. Other barriers to reducing SAM are families' long distance from health centres, not acknowledging a child as suffering from malnutrition, and a general lack of knowledge about malnutrition and health services (Guerrero, Myatt & Collins, 2010; Puett & Guerrero, 2015).

In fact, SAM without complications can be managed directly in the community allowing children to be treated in outpatient care and not requiring hospitalization. In Nepal, in each community, a female community health volunteer (FCHV) promotes various health practices at the household level. The FCHV visits households in the community and assesses the nutritional status of children (with a mid-upper arm circumference measure and oedema check), as well as other health parameters. If the FCHV suspects a case of malnutrition, they refer the caregiver and the child to an outpatient therapeutic programme (OTP) located in a health facility, where the child's anthropometric measurements are taken, an appetite test is conducted, and the presence of oedema is checked. If SAM is diagnosed, the nutrition personnel provide treatment with ready-to-use therapeutic food (RUTF), an energy-dense paste made of various ingredients of high nutritional value that can be delivered by caregivers at home. The caregivers also receive

nutrition counselling. In this way, FCHVs play a central role within their communities in identifying malnourished children and preventing complicated health issues (Schwarz et al., 2014; Panday, Bissell, van Teijlingen & Simkhada, 2017, López-Ejeda, Charle Cuellar, Vargas & Guerrero, 2019).

While these community-based programmes reduce the problem of geographical distance, other barriers persist; these are often related to household factors, which are more difficult to change (Puett & Guerrero, 2015). For example, family members may be reluctant to send the main caregivers with their malnourished children to an OTP as it involves additional efforts and may keep the caregivers away from their daily chores and duties: caring for other children, cultivating crops, tending cattle, etc. Thus, one solution might be to offer caregivers social support (Prusti & Unisa, 2017) at the community level that would allow them to access SAM treatment or nutrition programmes. Most nutrition programmes require the active participation of community members and therefore they need to contextualise the interventions and consider the representations of malnutrition circulating at the community level in order to be efficient (Roy et al, 2007, Permuntá & Fubah, 2015). Stakeholders of Nepalese multisector programmes themselves regret their lack of knowledge about the cultural beliefs and practices by community members as they feel this hinders their work (Gaihre et al, 2019). Also, community involvement appears as a vital precondition for creating healthy enabling environments (Campbell & Cornish, 2010).

3. Developing a community approach to address malnutrition

Few studies have been conducted on community members' representations of malnutrition. The few existing studies tend to focus on perceived causes. Those studies have shown that symptoms of malnutrition can be perceived as an illness transmitted by the mother (in Burkina Faso, see Roger-Petitjean, 1996; in Bolivia, see Castillo-Carniglia, Weisstaub, Aguirre, Aguilar & Araya, 2010; in different African countries, see Pemuntá & Fubah, 2015). Or it may be explained by 'supernatural' causes (in India, see Burtscher & Burza, 2015; in Pakistan, see Bliss, Njenga, Stoltzfus & Pelletier, 2016). In Tanzania, malnutrition is associated by community members to hunger and food insecurity (Bliss et al., 2016). In Nepal, an analysis of the discourse in the media demonstrated that malnutrition is associated with hunger and lack of food when it occurs in a foreign country, but when it concerns Nepal, it tends to be explained by a lack of care due to traditional values, stigmatizing malnutrition (Caillaud & Payotte, 2024).

Although beliefs are multifaceted and context-dependent, across cultures, stigma and moral emotions (such as shame) are often associated with malnutrition (Howard & Millard, 1997) and act as a significant barrier to accessing health programmes (Bliss et al., 2016). Caregivers of SAM children are aware of this stigmatization (Castillo-Carniglia et al., 2010). In Nepal, previous studies have shown that various forms of 'othering' might be at work when representing SAM children, and that subtle differences exist between the Nuwakot and Saptari districts (Caillaud et al., 2022).

The lack of studies regarding representations of malnutrition by community members might be explained in part by a specific attitude towards community members in Nepal: they are mostly perceived as uneducated people with unworthy traditional beliefs that should be

replaced by medical knowledge (Pigg, 1995, 1996). This situation is reminiscent of the context of the first interventions to combat HIV, a highly stigmatised disease, where community experiential knowledge was mostly approached on a deficit mode and interventions were aimed at increasing individual knowledge (Joffe, 1995). The theory of social representations offered an alternative to these deficit approaches (Joffe, 1995; Murray & Flick, 2002), as it allows for an understanding of how lay people make sense of health and illness in relation to others, rather than focusing solely on how individuals misprocess information (Herzlich, 1969; Apostolidis & Dany, 2012). Social representations (SR) can be seen from two viewpoints (Wagner, 1994): they refer to a structured mental content (e.g. beliefs, evaluation, emotions, etc.) which is consciously shared with others. And, at the same time, SR refer to the processes of creation and transformation of this shared knowledge by a community. They ensure the cohesion and identity of communities and guide their behaviour (Jodelet, 2011). Thus, communities are both built *on* and *through* SR (Howarth, 2001). Also, SR are at the heart of community psychology (Sakki, et al. 2010), defined as an approach that shifts the focus from the individual to the interactions between individuals and their social and community environments in hope of making changes through social action (Kloos, 2021; Maton, 2004). More specifically, the goal of community psychology is to “understand the ways that altering specific human contexts (and perhaps the relationship between people and their contexts) alleviates human suffering” (Jason, et al., 2016, p. 7). Thus, the theory of social representations, with its focus on the reciprocal construction of the individual and the social, is a relevant theoretical perspective for community psychology (Jodelet, 2011).

4. The study

In 2017, we have conducted in Nepal a research project on social representations of malnutrition in order to better understand the social processes which prevent malnourished children from benefiting the appropriate health care. Within this project, we conducted qualitative interviews with health staff, focus groups with caregivers of malnourished children, a press analysis, and a questionnaire survey with community members. The aim of this questionnaire was to understand which factors are associated to relevant health advice provided by community members when faced with cases of malnutrition in Nepal, considering both contextual and individual variables. To this end, it explored how different components of social representations (beliefs and emotions) of malnutrition are related to the advice community members provide to mothers of SAM children in two different districts in Nepal: Saptari and Nuwakot. By comparing those districts, this study seeks to outline that different social psychological processes can be at play depending on the context, and therefore we proposed to shift the focus from the individual to the interactions between the individuals and their social and community environment. By doing this, the aim of this study is to evidence that the failure of malnutrition programs might be explained by symbolic, material and/or relational contexts (Campbell & Cornish, 2010) and therefore to contribute to develop the idea that community psychology approaches are urgently needed to address malnutrition.

5. Materials and methods

5.1 *Sampling*

Between June and September 2018, a survey was conducted with 376 community members living in the districts of Saptari (southeast Nepal) and Nuwakot (northern Nepal), where the international Non-Governmental Organisation (NGO) Action Against Hunger (Action Contre la Faim; ACF) implemented CMAM programmes between 2013 and 2018. These districts are similar in several aspects related to women's and men's education, women's empowerment, and infant and young child feeding practices (Nepal Demographic and Health Survey, 2016). Also, the CMAM programmes were similarly implemented in terms of accessibility to services, initial training of health staff, and management by the District Public Health Office. However, the districts are dissimilar regarding the socioeconomic context, the migration status of men, and food security. In addition, the prevalence of SAM is higher in Saptari (4.7%) than in Nuwakot (1.8%).

With regard to governmental structures, each district is divided into localities called Village Development Committees (VDCs), whose objective is to establish a partnership between community representatives and the public sector to improve service delivery systems. In this study, six VDCs in Saptari and five VDCs in Nuwakot were selected for the sampling in order to maximize differences according to the prevalence rate of undernutrition, housing conditions, and the level of health communication, as well as to consider potential access difficulty during the field study due to the monsoon season. The sample consisted of 376 participants: 214 mothers, 89 fathers and 72 mothers-in-law (as they play a central role in childrearing in Nepal). Half of the participants (45.9%) reported having at least one child suffering from undernutrition (severe or moderate). They were included in the study to test the hypothesis that having a child affected by malnutrition may change parental and in-law representations as well as the advice provided.

5.2 *Procedure*

With some commonalities of a participatory action-research framework (Cornish et al., 2023), we aimed at prioritizing experiential knowledge while emphasizing community engagement as much as possible—through ACF research teams - at different stages of the global research project (ACF members provided support for the preparation of interviews and focus groups, for the press analysis), and at different stages of the questionnaire survey (choice of material, support in writing questions, principles of sample construction, etc.). Moreover, according to community psychology, we carried out a naturalistic and problem-driven research, rather than a contrived and theory-driven research (Fryer, 2008). Also, as a first step, the questionnaire was developed to be relevant for the participants and to the context of data collection (Patton, 2002). For example, although validated scales to measure emotions are more reliable, these were not selected, as administering the questionnaires would have been so time consuming that participants may not have had the will and patience to answer the entire questionnaire. We intentionally reduced the number of questions so that the survey would not take more than 25–30 minutes to administer. In a second step, a collective interview with members from one community was organized, and questions were asked in an open-ended way in order to check

whether they were easy to understand or not and if the types of answers were relevant or not (i.e. if open-ended answers matched the proposed answer categories). Following this, some adjustments were made (adding answer categories, reformulating questions). In the third step, a version of the questionnaire was submitted to around ten community members in each district in real conditions, allowing some final adjustments to be made. For example, in the initial version we asked participants what they would advise a mother to do, suggesting different options with multiple-choice answers (i.e. to see a traditional healer, to take specific drugs, to discuss the problem with the FCHV, to go to the hospital, etc.). We found that most participants agreed with all the choices. Thus, in order to better differentiate participants' answers and to reduce normative answers, we decided to include an open-ended question instead.

To avoid pre-imposing a medical category (Mwangome, Fegan, Prentice & Berkley, 2015), a picture of a very thin and bloated 12-month-old child with SAM, lying down, was presented before administering the questionnaire; all questions relating to a SAM child referred to that picture. This ensured that the interviewer never mentioned the term malnutrition, so that experiential knowledge could be grasped. After some open-ended questions (to collect spontaneous reactions to the picture), the interviewer asked questions to determine the following aspects of social representations of malnutrition (see Appendix).

Beliefs: One set of questions aimed to determine perceived causes, perceived consequences and perceived prevalence of malnutrition. First, participants were asked what may have caused the situation of the child in the picture. Different causes (8 items) were suggested (yes/no format). Based on a cluster analysis, items were grouped in four categories: poverty (one item), inherent (e.g. from birth) (one item), supernatural causes (two items: witches and spirits) and causes related to care (4 items: lack of care, lack of food, illness, and lack of sanitation). A mean score was calculated for the last two categories; thus, they were considered as ratio scales. The perceived consequences were measured by presenting different possible outcomes (12 items: death, disease, eyesight problems, etc.) using a yes/no format. Thus, for each participant we obtained a ratio of perceived consequences/total number of consequences. Finally, in order to measure the perceived prevalence, we asked participants to what extent the situation of the child in the picture could happen to someone in their village (on a 7-point scale, from 'it is highly improbable' to 'it is highly probable'). 7-point scale were represented by using a picture of a glass (with 0 equal to an empty glass and 6 equal to a full glass). This enabled participants who may not have been familiar with questionnaires and scales to better understand the question.

Emotions: We measured the emotions felt when a participant looked at the child in the picture. Emotions were grouped into three categories (Niedenthal, Krauth-Gruber & Ric, 2006): other-centred moral emotions (anger and disgust), self-centred moral emotions (shame and guilt), and interpersonal emotions (fear, surprise, sadness). All emotions were measured on a 7-point scale (ranging from 0 = 'I do not feel this emotion at all' to 6 = 'I feel this emotion at a high level').

Health advice: Participants were asked for the advice they would provide to the mother of the child in the picture with an open-ended question.

Variables at community level were added, which might play a role regarding malnutrition issues:

- Perceived emotions of the members of the community: the same list of emotions was given and the participants were invited to give a 'yes/no' answer if members of their community would feel each emotion when looking at the child in the picture.

- The communication index of the VDC where the participant was living (e.g. ownership percentage of radio, television, internet, mobile phone, etc.): the higher the index, the more the community has access to external communication.

- The index of living conditions in the VDC (wealth index: e.g. type of toilets, of roof, of floor, of water access, etc.): the higher the index, the better the living conditions in the community.

These indexes were calculated based on data from the National Population and Housing Census (2011).

- FCHV beliefs: Moreover, in each ward the FCHV was interviewed with the same questionnaire, but with specific questions added. The FCHVs were asked for their beliefs regarding traditional healing (e.g. Traditional medicine can reassure mother and family, items adapted from Wagner, Duveen, Verma & Themel, 2000). These questions aimed to measure the belief that traditional healing can be a relevant complement to modern medicine. The FCHV's answers were matched with each participant. The objective was to test if any variables characterizing the FCHV would be associated to the advice of community members.

Finally, some sociodemographic questions were asked (i.e. number of children, caste, religion, nutritional status of children, etc. See Appendix).

5.3 Data collection

The survey was administered at the participant's home in the language most commonly spoken by community members (i.e. Nepali in Nuwakot and Maithili in Saptari). The interviewers were a trained psychosocial worker in Saptari (5th author) and in Nuwakot. The training has been prepared with ACF team to ensure contextual and cultural relevance and the principal investigator conducted the training in Nepal. All staff have been involved in nutrition programmes beforehand and they had a good knowledge of the communities even though they might not have been from their respective communities of study.

After obtaining a participant's consent, they administered the survey at the participant's home.

5.4 Analyses

Statistical analyses were conducted separately for each district, as the survey was conducted in different languages in Saptari and in Nuwakot (Wagner, Hansen & Kronberger, 2014), and as different effects could be expected in the different contexts (Nezlek, 2008). Effects of sociodemographic variables and of children's nutrition status were systemically identified. Only significant results are presented in this paper.

Health advice was measured with an open-ended question. Thus, answers were categorized in an inductive mode (Patton, 2002): (i) bring the child to a healthcare provider; (ii) give food or treatment to the child (without seeing a healthcare provider); and (iii) other advice (i.e. Mostly providing support and help). Two researchers (the first and second authors) separately categorized the answers, and the inter-rater reliability coefficient was very good: 98%.

IBM SPSS Statistics (version 23) was used to conduct the statistical analyses. As homogeneity of variance was not respected for continuous variables non-parametric tests were used. For nominal data, conditions were met for using Chi² tests. Analyses were conducted to explore variables significantly linked to the three categories of health advice (Chi² and Kruskal-Wallis tests for categorical and continuous variables respectively). We first planned to conduct multilevel analyses (to explore if the VDC level (or the FCHV level) interacted with variables at the individual level) but the first tests indicated that multilevel analyses were not relevant (Sommet & Morseli, 2017). Thus, multinomial logistic regressions with ‘advice provided’ as the dependent variable were performed in order to look for variables that were best associated to the different types of health advice. Any variable with a univariate test ($p < 0.20$) was selected as a candidate for the multivariate analysis (Bursac, Gauss, Williams & Hosmer, 2008). We chose to retain for the final model variables by looking at the likelihood-ratio statistics table and by testing different models.

6. Results

6.1 Preliminary statistics

Table 1 Health advice by community members ($n= 376$) in two districts of Nepal

		District ($N=376$)	
		Saptari ($n=186$)	Nuwakot ($n=190$)
Health advice ($n=371$)	Seek healthcare provider $n=110$ (29.65%)	74 (38.95) ^a	36 (18.95) ^b
	Provide treatment/food $n=126$ (33.96%)	23 (12.37) ^b	103 (54.21) ^a
	Other $n=135$ (36.39%)	85 (45.70) ^a	50 (26.32) ^b

Note: different superscripts indicate that frequencies are significantly different

Table 1 shows that the distribution of health advice clearly differed in each district (Chi² [2, $N=371$] = 73.142, $p < .001$): in Saptari, interviewees were more prone to advise providing support to families (category other); in Nuwakot, they mostly advised giving better food and/or treatment. Regarding the nutritional status of children, having a child suffering from malnutrition (severe or moderate) had no effect on health advice ($p = .90$, not shown in Table 1).

6.2 Modelling health advice in Saptari

Table 2 shows that, in Saptari, the type of health advice was significantly different according to the interpersonal emotions: when participants reported feeling more these emotions (fear, surprise and sadness), they advise more food or treatment, compared to other advice.

Table 2 Data description according to type of health advice in Saptari district

			Advice provided				H value	Chi ² value	p
			Seek healthcare provider (N=74)	Provide treatment/ food (N=23)	Other (N=85)	Total (N=182)			
Perceived causes	Inherent (e.g. from birth)	Yes	63 (43.8%)	19 (13.2%)	62 (43.1%)	144 (79.1%)		3.75	.15
		No	11 (28.9%)	4 (10.5%)	23 (60.5%)	38 (20.9%)			
	Poverty	Yes	70 (43.5%)	19 (11.8%)	72 (44.7%)	161 (88.5%)		4.67	.09
		No	4 (19%)	4 (19%)	13 (61.9%)	21 (11.5%)			
	Lack of care	Mean (SE)	.93 (.15)	.95 (.13)	.91 (.16)	.92 (.15)	0.85		.65
	Supernatural	Mean (SE)	.53 (.41)	.59 (.41)	.47 (.41)	.51 (.41)	1.84		.39
Perceived consequences		Mean (SE)	10.01 (1.82)	9.22 (2.26)	9.55 (2.06)	9.70 (1.99)	3.24		.19
Perceived prevalence		Mean (SE)	2.78 (1.10)	3.22 (1.44)	2.66 (1.24)	2.78 (1.22)	3.39		.18
Emotions experienced	Other-centred moral emotions (anger and disgust)	Mean (SE)	1.86 (.85)	2.37 (1.62)	1.94 (1.07)	1.96 (1.08)	0.69		.70
	Self-centred emotions (shame and guilt)	Mean (SE)	2.43 (1.46)	3.02 (1.73)	2.22 (1.07)	2.41 (1.35)	3.13		.20
	Interpersonal emotions (fear, surprise and sadness)	Mean (SE)	3.99 ^{ab} (1.28)	4.40 ^b (1.58)	3.57 ^a (1.28)	3.85 (1.35)	8.08		.02
Perceived emotions of community members	Other-centred moral emotions	Mean (SE)	.28 (.36)	.37 (.34)	.22 (.31)	.27 (.33)	3.92		.14
	Self-centred emotions	Mean (SE)	.38 (.35)	.43 (.35)	.33 (.34)	.37 (.34)	1.90		.38
	Interpersonal emotions	Mean (SE)	.76 ^a (.26)	.62 ^b (.31)	.78 ^a (.25)	.75 (.27)	5.71		.05
FCHV	Years of experience of the FCHV	Mean (SE)	12.54 (4.51)	13.81 (5.10)	13.13 (4.34)	12.98 (4.5)	1.41		.49
	Supports traditional healing	Mean (SE)	4.13 (.53)	4.39 (.55)	4.18 (.52)	4.19 (.53)	3.85		.14
Context of the VDC	Communication index	Mean (SE)	16.47 (5.29)	18.60 (5.45)	16.33 (5.44)	16.67 (5.40)	4.41		.11
	Wealth index	Mean (SE)	9.11 ^a (1.37)	9.69 ^b (1.39)	9.09 ^a (1.41)	9.18 (1.40)	5.85		.05

Note: significant differences ($p < .05$) are indicated in superscript (Kruskal-Wallis tests with post-hoc comparisons using Dunn's test and Bonferroni correction). Different superscripts indicate that means are significantly different.

Moreover, the type of health advice was significantly different according to the perceived emotions of the community: when participants reported that other community members feel less interpersonal emotions, food or treatment was more advised, compared to other advice. Finally, the type of advice provided was significantly different according to the context of the VDC: the higher the wealth index of the VDC, the more participants advise to give food or treatment compared to other advice and to the advice to look for a healthcare provider. No other significant difference was found (no differences according to sociodemographic variables).

Table 3 Factors associated to the health advice in Saptari (n=146)

	B	Standard error	Wald	ddl	p-value	OR	95% confidence interval for OR
The reference category is 'healthcare provider'							
food/treatment							
intercept	-22,537	8,095	7,751	1	0,005		
perceived cause birth	0,000	0,760	0,000	1	1,000	1,000	[0,226-4,435]
perceived cause poverty	-1,012	0,936	1,171	1	0,279	0,363	[0,058-2,274]
perceived consequences	-0,329	0,152	4,658	1	0,031	0,720	[0,534-0,97]
Perceived prevalence	0,363	0,241	2,268	1	0,132	1,437	[0,896-2,303]
Other-centred moral emotions	0,189	0,247	0,587	1	0,443	1,208	[0,745-1,959]
Self-centred emotions	0,168	0,225	0,558	1	0,455	1,183	[0,761-1,836]
interpersonal emotions	0,229	0,235	0,947	1	0,330	1,257	[0,793-1,993]
Perceived emotions of community members (other-centred)	0,014	0,831	0,000	1	0,987	1,014	[0,199-5,166]
Perceived emotions of community members (interpersonnal)	-2,059	1,112	3,429	1	0,064	0,128	[0,014-1,128]
FCHV_Tradheal_ID_Acceptationdis	1,881	0,672	7,827	1	0,005	6,560	[1,756-24,499]
Communication index of VDC	-0,733	0,330	4,940	1	0,026	0,480	[0,251-0,917]
Wealth index of VDC	3,063	1,293	5,609	1	0,018	21,399	[1,696-270,018]
Other							
intercept	-3,394	4,567	0,552	1	0,457		
perceived cause birth	-0,555	0,455	1,489	1	0,222	0,574	[0,235-1,4]
perceived cause poverty	-0,901	0,659	1,869	1	0,172	0,406	[0,111-1,478]
perceived consequences	-0,130	0,099	1,744	1	0,187	0,878	[0,723-1,065]
Perceived prevalence	-0,135	0,160	0,717	1	0,397	0,873	[0,639-1,195]
Other-centred moral emotions	0,083	0,186	0,199	1	0,656	1,087	[0,754-1,566]
Self-centred emotions	0,049	0,170	0,084	1	0,772	1,050	[0,7523-1,466]
interpersonal emotions	-0,243	0,156	2,417	1	0,120	0,784	[0,577-1,065]
Perceived emotions of community members (other-centred)	-0,430	0,530	0,656	1	0,418	0,651	[0,230-1,841]
Perceived emotions of community members (interpersonnal)	0,361	0,746	0,234	1	0,628	1,435	[0,332-6,19]
FCHV_Tradheal_ID_Acceptationdis	0,436	0,437	0,996	1	0,318	1,546	[0,657-3,639]
Communication index of VDC	-0,253	0,189	1,786	1	0,181	0,777	[0,536-1,125]
Wealth index of VDC	1,020	0,705	2,093	1	0,148	2,772	[0,696-11,035]

A total of 168 cases were analysed in the regression; the full model significantly predicted the health advice (omnibus chi-square = 45,554, df = 24, $p = .005$). The model accounted for between 13.7% and 27.6% of the variance in health advice, with 47.8% of the 'healthcare provider' reference category successfully predicted. However, the model was just 7.8% more (or 54.8% of participants) than the null model. Specifically, the model excelled at identifying 'other' health advice (68.4% correct).

From Table 3, the coefficients of predictor variables show that an increase in the VDC communication index decreased the likelihood of the advice of providing food or treatment compared to the advice of seeking a healthcare provider. In contrast, when the wealth index of the VDC increased, the likelihood of the advice to give food or treatment increased compared to the reference category (i.e. seeking a healthcare provider). Moreover, an increase in the importance of perceived consequences led to a decrease in participants advising to provide treatment/food (compared to seeking a healthcare provider). Lastly, the more the FCHV adhered to traditional healing (an adherence with some critical distance), the more participants advised to give food or treatment compared to seeking a healthcare provider. No significant association was found with the advice in the 'other' category.

6.3 *Modelling health advice in Nuwakot*

Table 4 gives the data concerning the Nuwakot district by health advice. The type of advice was significantly different according to the self-centred emotions: participants who reported feeling more guilt and shame were more prone to advise giving food or treatment compared to other advice. At a contextual level, the health advice was significantly different depending on perceived emotions of community members: the higher participants attributed self-centred emotions and other-centred moral emotions to other community members, the more they advised providing treatment and food, compared to other advice. Moreover, the health advice given was significantly different according to the experience of the FCHV: when the FCHV had more experience, participants provided more other advice compared to giving treatment/food and seeking a healthcare provider. Finally, the type of advice provided significantly differed according to the VDC wealth and communication index: the higher the wealth and communication index, the more the participant provided other advice compared to treatment/food or healthcare provider. In Nuwakot, a significant difference was also found between the advice given and the religion (e.g. Hindus more frequently advised for treatment and food than other religions, and Buddhists more frequently gave other advice; note that this relationship was no longer significant in the regression).

Table 4 Data description according to type of health advice in Nuwakot district

			Advice provided			Total	H value	Chi ² value	p
			Seek healthcare provider (N=35)	Provide treatment/ food (N=103)	Other (N=51)				
Perceived causes	Inherent (e.g. from birth)	Yes	27 (18.1%)	85 (57%)	37 (24.8%)	149 (78.8%)		2.09	.35
		No	8 (20%)	18 (45%)	14 (35%)	40 (21.2%)			
	Poverty	Yes	34 (19%)	98 (54.7%)	47 (26.3%)	179 (94.7%)		1.10	.57
		No	1 (10%)	5 (50%)	4 (40%)	10 (5.3%)			
	Lack of care	Mean (SE)	.964 (.123)	.987 (.054)	.956 (.119)	.975 (.091)	3.79		.15
	Supernatural	Mean (SE)	.186 (.345)	.209 (.367)	.274 (.391)	.222 (.369)	1.79		.40
Perceive consequences		Mean (SE)	11.14 (1.29)	11.19 (1.25)	10.71 (1.50)	11.05 (1.34)	4.21		.12
Perceived prevalence (vulnerability)		Mean (SE)	3.60 (1.33)	3.55 (1.43)	3.22 (1.45)	3.47 (1.42)	3.27		.21
Emotions experienced	Other-centred moral emotions (anger and disgust)	Mean (SE)	2.68 (2.02)	3.12 (1.96)	2.56 (1.82)	2.89 (1.94)	3.62		.16
	Self-centred emotions (shame and guilt)	Mean (SE)	3.50 ^{ab} (2.24)	4.09 ^b (2.19)	3.01 ^a (2.19)	3.69 (2.23)	9.21		.01
	Interpersonal emotions (fear, surprise and sadness)	Mean (SE)	5.46 (1.30)	5.87 (1.25)	5.48 (1.30)	5.69 (1.29)	5.67		.06
Perceived emotions of the community members	Other-centred moral emotions	Mean (SE)	.77 ^{ab} (.37)	.86 ^b (.29)	.73 ^a (.35)	.81 (.33)	6.39		.04
	Self-centred emotions	Mean (SE)	.78 ^{ab} (.35)	.85 ^b (.31)	.65 ^a (.46)	.7831 (.37)	7.60		.02
	Interpersonal emotions	Mean (SE)	.98 (.08)	.96 (.14)	.98 (.06)	.97 (.11)	.91		.63
FCHV	Years of experience of the FCHV	Mean (SE)	11.1 ^a (5.79)	10.3 ^a (6.7)	14.67 ^b (4.4)		11.86		.003
	Supports traditional healing	Mean (SE)	6.34 (1.32)	5.96 (1.67)	6.29 (1.45)	6.13 (1.55)	2.85		.24
Context of the VDC	Communication index	Mean (SE)	17.66 ^a (3.33)	16.92 ^a (2.85)	20.36 ^b (4.13)	17.98 (3.62)	16.73		.0002
	Wealth index	Mean (SE)	12.07 ^a (.83)	11.99 ^a (.71)	12.77 ^b (.93)	12.22 (.86)	23.89		<.0001
Religion	Hindu		11 (5.9%)	39 (20.7%)	31 (16.5%)	81 (43.1%)		28.94	<.0001
	Buddhist		15 (8%)	41 (21.8%)	3 (1.6%)	59 (31.4%)			
	Christian		9 (4.8%)	23 (12.2%)	13 (6.9%)	45 (23.9%)			
	other		0 (0%)	0 (0%)	3 (1.6%)	3 (1.6%)			

Note: significant differences ($p < .05$) are indicated in superscript (Kruskal-Wallis tests with post-hoc comparisons using Dunn's test and Bonferroni correction). Different superscripts indicate that means are significantly different

A total of 189 cases were analysed in the regression; the full model significantly predicted the health advice (omnibus chi-square = 54.93, $df=10$, $p < .001$). The model accounted for between 14.6% and 29.2% of the variance in health advice. However, the model did not predict the 'healthcare provider' reference category. Globally, the model obtained 9% more (or 63.5% of participants) than the null model. Specifically, the model excelled at identifying the 'treatment/food' health advice (85.4% correct), and the other advice (62.7%). From Table 5, the coefficients of predictor variables showed that the higher the VDC communication index, the more participants gave other advice compared to the reference category (but also compared to the advice to provide food/treatment). The less they perceived that the community feels self-centred emotions (guilt, shame), the more they provided other advice compared to the advice to seek healthcare.

Table 5 Factors associated to the health advice in Nuwakot ($n=189$)

	B	Standard error	Wald	ddl	p-value	OR	95% confidence interval for OR
The reference category is 'healthcare provider'							
food/treatment							
intercept	-1,025	2,597	0,156	1	0,693		
perceived cause - lack of care	2,847	2,384	1,426	1	0,232	17,230	[0,161 - 1843,737]
Other-centred moral emotions	0,006	0,134	0,002	1	0,965	1,006	[0,773 - 1,309]
Self-centred emotions	0,085	0,116	0,546	1	0,460	1,089	[0,868 - 1,367]
Perceived emotions of community members (self-centred)	0,428	0,628	0,465	1	0,495	1,535	[0,448 - 5,257]
Communication index	-0,079	0,063	1,599	1	0,206	0,924	[0,817 - 1,045]
Other							[0 - 0]
intercept	-2,549	2,353	1,173	1	0,279		[0 - 0]
perceived cause - lack of care	-0,681	2,084	0,107	1	0,744	0,506	[0,009 - 30,087]
Other-centred moral emotions	0,196	0,165	1,413	1	0,235	1,216	[0,881 - 1,679]
Self-centred emotions	-0,142	0,141	1,020	1	0,313	0,867	[0,658 - 1,143]
Perceived emotions of community members (self-centred)	-1,570	0,696	5,085	1	0,024	0,208	[0,053 - 0,814]
Communication index	0,245	0,069	12,705	1	0,000	1,278	[1,117 - 1,462]

7. Discussion

Child malnutrition remains a major global issue, with huge consequences for children's development and increasing social inequalities. In Nepal, although efforts have been made by the government to remedy the situation, many children are not receiving the care they need (Adhikari et al., 2023). Community involvement is vital to fostering health enabling environments (Campbell & Cornish, 2010), and in particular to supporting caregivers in delivering the appropriate health practices. The present paper aimed to illustrate that community psychology might address malnutrition in a refreshed and relevant way. We have presented findings from a

questionnaire survey which was part of a larger research project. Although the method does not embody a community approach, the findings contribute to outline why developing a community approach might be relevant.

7.1 Main findings

The results from the questionnaire survey show not only that community members do not give the most relevant health advice, but above all that the advice given (1) is hardly explained by our data and (2) is more related to variables at the community level than at the individual level. More specifically, the results outline two very different patterns in these districts.

In Saptari, a district with less favourable living conditions and a higher level of malnutrition, interviewees frequently proposed providing support to the family. Relevant health advice (seeking a health provider) was related to a higher level of communication and difficult living conditions in the VDC, and by higher perceived consequences of malnutrition. This supports the idea that in Saptari, community members who live in wealthy VDCs – who experience the least adverse living conditions – and with a poor communication index – who are perhaps less informed about malnutrition – more frequently advise giving food or treatment, which may be symptomatic of the stigmatization of malnutrition. The more the FCHV had faith in traditional healing as a complement to modern medicine, the less participants provided relevant health advice. Thus, FCHVs seem to play an important role in Saptari (Khatri, Mishra & Khanal, 2017) and would benefit from continuous support and training in providing the most up-to-date health advice.

In Nuwakot, the results were very different. First, the effect of the VDC communication index was the opposite of that found in Saptari: the higher the access to communication means in the VDC, the less they advised to see a health professional. Secondly, no belief regarding malnutrition were significantly associated to the health advice; only normative emotions (what interviewees think members of their community feel when looking at a picture of a child with SAM) was: the more they thought that community members feel self-centred emotions (guilt and shame: i.e. the more they are aware of stigmatisation), the more they advised seeking a healthcare provider (compared to other advice). This demonstrates the importance of perceived community's emotions and suggests that relevant health advice may be provided from community members who associate, at a community level, malnutrition to shame. However, this perceived community's emotions may lead caregivers of SAM children to turn away from this kind of advice, which is associated to shame, for their child (Bliss et al, 2016).

Another unexpected result is the opposite effect of the communication index in the districts. We can hypothesise that in each district, different meaning categories present in the national press (Caillaud & Payotte, 2024) are used to explain the situation: in Saptari, a district with one of the lowest level of economic development in Nepal and with numerous natural disasters, people may consider that hunger can happen in their region and lead to malnutrition caused by lack of food, whereas in Nuwakot, where malnutrition rates are lower and living conditions better, people may believe the explanation lies in lack of care due to traditional values (Caillaud et al., 2022). This might explain why in Nuwakot participants mostly advised giving better food and treatment (as malnutrition may be interpreted as caused by lack of care), whereas in Saptari participants mostly advised supporting the family (malnutrition may be interpreted as caused by

lack of food). Based on these results, we can assume that representations circulating at a global level might play a role in explaining the health advice provided by community members.

Also, the findings from this questionnaire survey may be an invitation to develop a community psychology approach to address malnutrition in a new and fruitful way. They are different reasons for this. First, our results outline that different social processes are at play depending on the community context so that an ecological analysis is necessary to understand how the material context (e.g. access to communications, living conditions), the symbolic context (discourse from the media) and the normative community context (e.g. perceived emotions, the discourse of the FCHV) relate to community members' health advice and contribute to maintain high malnutrition level. At an individual level, 'perceived consequences of malnutrition' was the only variable significantly associated to health advice in Saptari. Additionally, having a child suffering from malnutrition was not associated to relevant health advice. Thus, it seems that individual variables are not the most relevant. Also, data must be gathered at the level of the community in order to grasp how the individual and the social interact (Jason, et al. 2016). However, even if the focus should be on the community level, the different role played by the communication index in each district should invite us to develop an analysis of social representations of malnutrition in communications at a global (i.e. national) level too (Gregory, 2001), and to articulate the different level of analysis. In such case, SR theory is well-suited to support this multi-level analyses (Staerklé, 2011).

7.2 *Promising directions for community psychology and practical implications*

Our findings, together with previous studies having outlined the role of stigmatization (see Bliss et al, 2016; Caillaud et al, 2022), contribute to a call for a systemic change, notably by reducing stigma associated to malnutrition in communities, but also by tackling stigma which circulates in the media and which might contribute to local stigmatization and hinder social change. This is in line with the community psychology approach whose aim is not to change individuals, but rather the relationship between them and the structures in which they live (Kloos, 2021). Indeed, improving knowledge on malnutrition in such a context may not drive change (Campbell & Cornish, 2010): community members may know what the causes and consequences of malnutrition are, they may even have experienced malnutrition in their own family, but if stigmatization of malnutrition is shared at the community level, and on a country level (Caillaud et al, 2022; Caillaud & Payotte, 2024), this knowledge might not lead to community members supporting the caregivers. Fighting stigma (and the moral emotions associated with malnutrition) at a community and national level should be part of the solution (Bliss, et al., 2016), a challenge which might be addressed by drawing on lessons from social psychology intervention studies (Paluck & Green, 2009).

Previous studies have also shown that stigma associated with malnutrition is a significant barrier (Bliss et al., 2016). The striking point is that this process of othering serves a social function (Joffe, 1999): it prevents Nepal from being perceived as an underdeveloped and non-democratic country where people suffer from hunger (Caillaud & Payotte, 2024). Thus, associating malnutrition to a lack of care appears as a strategy to protect the threatened social identity by maintaining 'the malnourished' outside the boundaries of one's group (Joffe, 1999): they are not one from "us" (Caillaud & Payotte, 2024). Therefore, tackling stigma associated to malnutrition

should address the function of othering. And this brings us to the idea of empowering the community. Rather than approaching community members as passive recipients of prevention, or of messages seeking to reduce stigma, community-based initiatives might be developed to create community contexts (Campbell & Cornish, 2010) that reduce the threat to identity malnutrition represent for these communities (Caillaud & Payotte, 2024). Supporting communities in promoting a strong positive social identity which is not threatened by malnutrition might be a way to do this. Also, empowering communities should consider addressing the identity threat malnutrition represent for community members, by promoting a sense of competence, by encouraging grouping and the collective production of tools and dynamics (Saías, 2011) which would certainly be a first step to social change. In fact, empowerment can only be achieved by considering the role of social environments in enabling and constraining effective community responses (Campbell & Cornish, 2010).

Also, various practical recommendations may be drawn from our results and from the literature that would be helpful for field practitioners intervening in somewhat similar settings. First, it is essential to acknowledge that health advice provided by community members is hard to explain, as observed in both models, which are relatively poor in explained variance. Therefore, during prevention actions through awareness sessions or home visits by FCHVs, it would be recommended to understand the local knowledge and co-design health advice with the communities themselves. In addition, in a research perspective, it would be valuable to further explore which factors would support more relevant health advice. Moreover, the results show that relevant health advice is not uniform in the community, and that caregivers of SAM children are rarely supported by community members in their decision to visit a healthcare centre. Through community awareness regarding child health and development, and in collaboration with all parties involved in community-based or –led initiatives, supporting caregivers throughout the decision-making process for seeking child healthcare should be encouraged as mothers are often facing gender inequalities and stigma that prevent them from fully contributing to optimal child care practices (Bliss et al., 2016; Tresna Darmawan Putri et al., 2024). Finally, collaboration between health professionals, Female Community Health Volunteers and local practitioners contributing to the continuum of care (Kandel & Lamichhane, 2019; Joshi, et al., 2024) should be enhanced in order to improve their competencies and skills in providing the most relevant advice at their level but also taking into consideration what other non-specialists would advise.

Last but not least, the research project in its design and results could inform further participatory research action. By paying attention to the SR of malnutrition by caregivers of SAM children and by community members, this research shares some commonalities of a participatory action-research framework aimed at prioritizing experiential knowledge (Cornish, et al., 2023). However, in a context where community members are mostly perceived as “traditional and uneducated credulous people” (Pigg, 1995, 1996), engaging the community first consisted in engaging the ACF research team to give (and listen to) the voice of community members and to value their experiential knowledge. Also, the European researchers and the Nepalese team worked together, so that the Nepalese team provided support to adapt and prepare ecological valid research material and the expertise of the European team allowed the study to value the social representations by community members in a context where they are silenced. In this context, mobilizing SR theory helped to value experiential knowledge but also to recognize that common sense thinking exists in the so-called modern societies also (Cornish & Campbell, 2009).

7.3 Limitations

Some methodological limits of the study warrant consideration. First, a naturalistic research framework was adopted and this has some consequences on the way the questionnaire has been elaborated. We decided that less questions answered diligently are better than a long questionnaire where participants' attention is lost. Thus, some scales had to be reduced which might have effect on the validity of measures (Patton, 2002). In the same way, despite great attention has been paid to translate the questionnaire in two different languages, it is still possible that the questionnaire may not have been understood exactly in the same way in both districts. However, by analysing the data in each district separately, this limitation has been dealt with satisfactorily (Nezlek, 2008; Wagner et al., 2014). But these are limitations which cannot be entirely controlled in a naturalistic research. Moreover, as outlined, the models explain relatively low variance (13.7-29.2%), and this should be kept in mind as the first and central finding (relevant health advice by the community is hard to explain and further research is needed). Finally, this cross-sectional study design does not allow for causal assertions, and our findings are correlational in nature. Thus, the findings presented in this questionnaire survey would benefit from being articulated to other data collected (i.e. interviews, focus groups, and press analysis) in the global research project: methodological triangulation is a strong strategy to enhance the quality of a research (Flick, 2025) in a social representations theory framework (Caillaud, et al. 2019).

8. Conclusion

Because undernutrition contributes to increased morbidity and mortality in children, to worsen early child development and to reduce chances for thriving optimally, advanced health equity in nutrition and health care quality is crucial. Our study aimed to improve this quality by understanding communities' perspectives and the expression of their recommendations. The findings showed that tailor-made approach towards preventive and promotive care could be a way to improve participants' health seeking behaviours and therefore respond more adequately to children's needs. Notwithstanding geographical disparities, tackling health disparities by implementing nutrition-sensitive interventions that would support community health workers in their preventive role and influence health-seeking behaviour by empowering caregivers and communities with a more people-centred approach would certainly benefit the malnourished children, their families and the health care network locally and nationally.

The social determinants of malnutrition are multifold and rooted in the child ecological system and strongly associated with poverty, all kind of structural inequalities, and other indicators of social injustice that paves the way to weaken health conditions and systems of care. In a social justice context, these findings emphasize the need to raise the communities' voices regarding health system approach, the need to empower caregivers and especially mothers but also communities when it comes to child care.

Although quantitative methods (like the questionnaire survey presented in this article) are less relevant for capturing experiential knowledge and social representations (Flick & Foster, 2008),

they can be used to convince of the need to develop community-based approach and may therefore be part of the social change.

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