The Role of Consumers

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Abstract

It is particularly important that in areas of strategic public health significance, e.g. infant feeding, the processes used to extract robust scientific findings are timely, rigorous and transparent. Low rates of breastfeeding, poor weaning practices and variability within and between countries have been reported by many authors and resulted in a call for more consistency of recommendations across regions. The adoption of consumer behaviors in line with recommendations is of course not guaranteed. The consumers in this instance are both the infant and their mother or other carers. As infants completely depend on their carers to make food choices for them, it is important that they understand nutrition, and the importance of food choices for health of the baby and in future life. Parents obtain information from a variety of sources, the quality of which may vary, and is not necessarily evidence-based. Although carers decide what is offered or withheld, the infant may contribute to this decision by expressing dissatisfaction or refusing food. At the heart of all feeding choices lies this interplay between carer and child, influenced by the environment at household, community and societal level.

Scientific expertise underpins policy making to ensure that the decisions reached are reasonable, justifiable and effective, and to provide accountability and value for money, possibly also facilitating greater public acceptance, and thus a valuable tool in policy makers’ efforts to manage accountability and justify value-based decisions [e.g. 1–2]. As a result of extensive research, there is widespread endorsement of breastfeeding as the gold standard [3]. However, recent unpublished data comparing infant feeding policies for breastfeeding in five European countries (England, Germany, Finland, Hungary and Spain) have highlighted the varied nature of such documents possibly reflecting variations in the structure of health services, resources, history and culture. Interestingly, these results were to some extent mirrored in the food-related content of the most popular parenting magazines and infant feeding leaflets.
available in the same five countries. It has been recognized that the wide
diversity in the progress towards a coherent public health nutrition policy
across Europe is due to diverse public health nutrition policy traditions as
well as the diverse scientific bases used to inform policy [4].

Health care professionals provide advice and information to consumers, and
promote health-enhancing behaviors within a framework provided by policy
documents and guidelines. Although policy documents are of course not the
only influences on practice, their contents is likely to be related to how health
professionals transmit recommendations. Lack of consistency between docu-
ments and countries in the representation of the health benefits of breastfeed-
ing should be a cause for concern for policy makers [5] but could be explained
by lack of agreement amongst experts [3, 6], with some arguing that there is no
evidence that introducing complementary feeding before 6 months is harmful
[7]. It is thus not surprising that policy makers might be cautious in adopting
certain evidence. The evidence base on the link between infant nutrition and
lifelong health is incomplete and sometimes inconsistent.

The way in which in scientific research finds its way into policy documents
to provide recommendations for professionals and guidance for practice is
important, but often opaque. The preferred approach to producing guidelines
is through consensus amongst stakeholders, including practitioners, com-
missioners, and service user representatives around the available evidence
[8], with the final decisions about the health effects of breastfeeding that are
included depending on the influence of a variety of contextual factors such
as the local interest groups and the balance of committee membership. It is,
however, particularly important that in areas of strategic public health sig-
nificance, e.g. infant feeding, the processes used to extract robust scientific
findings are timely, rigorous and transparent.

Low rates of breastfeeding, poor weaning practices and variability within
and between countries have been reported by many authors and resulted in
a call for more consistency across regions such as Europe [e.g. 9]. The Social
Ecological Framework [e.g. 10, 11] (see also fig. 1) offers a means for under-
standing the levels through which people's behavior can be influenced and
the following levels can be distinguished:

- intrapersonal (e.g. an individual's knowledge, skills, attitudes, values,
  preferences, emotions, values, behavior),
- interpersonal (e.g. an individual's social networks, social supports, fam-
  ilies, peers, and neighbors)
- community (e.g. community resources, neighborhood organizations,
  social and health services),
- organizational (e.g. businesses, public agencies, churches, service orga-
  nizations), and
- public policy levels (e.g. legislation, policies, taxes, and regula-
  tory agencies, health system, social care system, political/geographic
  environment).
The adoption of consumer behaviors in line with recommendations is of course not guaranteed. Consumers in this instance are both the infant and their mother or other carers. Infants are born with a set of behavioral predispositions that allow them to learn to accept the foods made available to them, which in turn is modulated by the sociocultural environment that they are born into [12]. As infants completely depend on their carers to make food choices for them, it is important that they understand nutrition, and the importance of food choices for health of the baby and in future life. Parents obtain information from a variety of sources, the quality of which may vary, and is not necessarily evidence based. Health care professionals may have gaps in their knowledge [e.g. 13]. Even knowledge may not be sufficient, however, and pragmatic factors such as convenience and cost may override health considerations [14].

When critically reflecting on the evidence base collated in a recent systematic review [15] of intervention studies that promote and support the duration of breastfeeding, the authors [16] found it to be very limited due methodologically weak studies, small sample sizes, inconsistent definitions of breastfeeding, lack of appropriate outcomes, and little use of appropriate theory. The authors highlighted the following areas as being in need of further research: the impacts of health and welfare policies, mass media promotion and social marketing, interventions targeting subgroups of disadvantaged women, ‘insufficient milk’ syndrome, painful feeding, specific baby and maternal problems, the education and training of health professionals, and ways of changing practice. The authors [16] noted the lack of focus on the psychosociobiological

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**Fig. 1.** Influences on infant feeding. Adapted from McLeroy et al. [10], and Bentley et al. [11].
nature of breastfeeding in the studies reviewed. The effects of women's views and feelings, and the social and cultural context of breastfeeding were not considered in most studies.

MacInnes and Chambers' [17] synthesis of qualitative research on mothers' and healthcare professionals' (mainly midwives, nurses, health visitors/community child health nurses and lactation consultants) experiences and perceptions of breastfeeding support in westernized countries published between 1990 and 2007 helps to fill the above-mentioned gap. With regard to health service support of breastfeeding, six themes were identified: the mother-health professional relationship, skilled help, pressures of time, medicalization of breastfeeding, the ward as a public place and health professional relationships. Overall findings included that mothers were not receiving the desired support from health professionals. There were two themes with regard to social support, compatible and incompatible. The former was either practical (e.g. help with housework or older children, or problem-solving), informational (e.g. from someone with knowledge of breastfeeding) or emotional (e.g. empathy, approval, praise, feeling nurtured or cared for or being replenished for ‘giving out’). When coming from someone with personal experience, the source of support was potentially considered to be as important as the actual support received. Where mothers did not have a supportive network, pressure to change, confusion and self-doubt were experienced. Social support was particularly important where health professional support was lacking. The authors [17] stressed the importance of including mothers in the development and delivery of optimal services.

Women usually already receive information about infant feeding during pregnancy from different sources, including formal sources such as health care providers and prenatal health education classes, and informally from family and friends, as well as audiovisual and reading materials [18]. A recent systematic review of decision support needs of parents making child health decisions [19] suggests a parental need: (a) for timely, consistent, up-to-date, evidence-based information tailored to the individual, delivered in a variety of formats from trustworthy sources; (b) to talk with others in the same situation to share information, experiences and ideas, and (c) to be in control of one's level of preferred involvement in the decision-making process (see also fig. 2). These themes highlight the complexity of the health decision-making process and are consistent with previous research across a range of health decisions including those made on behalf of a child. Health professionals often do not address these themes very well, a finding in even the most recent papers reviewed [19]. This is consistent with a recent systematic review, of information in decision aids, across a variety of health decisions including those made on behalf of a child [20]. The increasing policy emphasis on patient-centered care [e.g. 21] and developments in shared and informed decision-making theories [e.g. 22] seem rarely to have been translated into practice, or at least, are not reflected in research on decision support needs conducted with parents.
An area of infant feeding that has received less attention is that of bottle-feeding. A recent review [23] identified evidence relating to five main themes: experiences of bottle-feeding, sources of information and support, feed preparation, quantity of feeds and formula milk changes. The qualitative studies for the most part explored experiences of bottle-feeding found that mothers who bottle-fed experienced a range of negative emotions including guilt, anger, uncertainty and a sense of failure. Whilst mothers were found to be relatively well informed as to the benefits of breastfeeding, they often felt the pressure to breastfeed unreasonable. Another important finding of the review [23] was mothers reporting not receiving sufficient information about bottle-feeding. It should be noted that this review [23], striving for consistency of context, excluded studies carried out in developing countries; the findings may thus not apply to such settings. The authors [23] concluded that as the vast majority of babies receive at least some formula milk during the 1st year of life, it is important that this is prepared and administered safely and correctly. They stressed that whilst increasing the levels of initiation and duration of breastfeeding is important, minimizing the risks associated with bottle-feeding through providing adequate information and support sensitively and non-judgmentally to parents who choose to bottle-feed their infants is also necessary.

The shift from milk feeding to the introduction of solid foods is of course complex and also influenced by a wide range of social and psychological factors, particularly for a mother providing solid food to an infant for the first time [24].
feeding practices is very limited [25, 26]. As with all aspects of infant feeding, decisions around weaning are made after taking a number of factors into account, and future health outcomes are by no means the sole driver of this decision [e.g. 27]. Murphy et al. [28, 29] have shown how mothers balance their babies’ needs against their other obligations and own personal needs and priorities, with hunger-related behavioral changes being the main rationale for commencing weaning, including behaviors such as the infant needing more frequent feeds, crying after a feed, and changes in sleeping patterns. In some instances, particularly in public settings, food is used to control or distract babies [28, 29]. The types of foods and way in which food is consumed (e.g. self-feeding, use of a spoon) are in some cases regarded as measures of a child’s progress and/or intelligence, and mothers are thus often eager to encourage their babies to move on to ‘the next stage’ of feeding [28, 29].

Although carers decide what is offered or withheld, the infant may contribute to this decision by expressing dissatisfaction or refusing food. At the heart of all feeding choices lies this interplay between carer and child, influenced by the decisions and practices at the household, community and societal level. In making infant feeding decisions, carers are likely to benefit from:

- having access to timely, consistent, up-to-date, evidence-based information tailored to the individual, delivered in a variety of formats from trustworthy sources,
- being able to talk with others in the same situation to share information, experiences and ideas, and
- being in control of one's level of preferred involvement in the decision-making process (i.e. the extent to which one wants to take on board advice from health professionals, family friends, etc.).

Infant feeding decisions are shaped and constrained by the existing social and cultural norms (e.g. regarding breastfeeding in public, expectations of ‘motherhood’, culinary traditions), and there are policies (e.g. legislation governing maternity leave, parental support initiatives) in place that support healthy infant feeding practices and influence the extent to which healthy choices are easily and readily made.

References

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Discussion

Dr. Cooper: On the one slide you had about who would influence the most, there seemed to be a follow-up at 8 months. Is that correct?

Dr. Raats: Yes.

Dr. Cooper: You had a slide about intentions to breastfeed for how long, but do you have any idea from that follow-up as to what they actually did?

Dr. Raats: Yes we do, but I haven't brought a slide along with that. We do see some changes, and we are looking at the data to try to determine what some of the influences might be.

Dr. S. Koletzko: I have two questions. Is there a difference in the perception of the mother whether the information leaflets were provided by health care professionals or the government or from industry? Did you look at this?

Dr. Raats: We didn't look at that in this study because it was on a very general level comparing different sources of information. But I know that that is something that is looked at in some other studies where people do have different views in a lot of areas, work around the areas of food, that there are certain sources that are trusted. But again, this is different in different countries depending on the information system that is in place. If you look at a lot of materials, it's not always clear what the sources of information are, that's again something I haven't presented. When you analyze materials, they are very variable in how explicit they are, with regard to their source, and people have views on what they might regard as better or less good information.

Dr. S. Koletzko: My second point is related to mixed feeding; I completely agree with you, this is not clearly communicated both to health professionals and to the consumers. Even the top scientific studies often do not differentiate whether the absence of breastfeeding is harmful or the presence of formula feeding. If this has been analyzed it was mostly the absence of breastfeeding which was associated with a negative outcome and not the presence of formula feeding. This indicates that as long as the mother continues to breastfeed – even not exclusively – there may be benefits. This may result in a terrible conflict for these mothers.

Dr. Raats: Yes, and I think that's where you get a non-alignment of policies thus giving people a very conflicted environment within which to operate, and that I think leads to the stress that many people are experiencing. There is data from many countries that shows that, and it's also recognizing that the decisions aren't just being made on the behalf of the child. You also need to consider the mother's interest in that, and not recognizing those making the policies can lead to a lot of problems. There is a very interesting qualitative paper done in China which reflects on mothers decisions, and again it has very much to do with when does one go back to work, the relationship with the husband. There are many pressures which stop people doing what they might think is the right thing to do in terms of being a good mother, but it's in conflict with what's the right thing to do with making the other decisions and meeting the other obligations in their lives.

Dr. Akbar: In your presentation, you found that the reading materials, leaflets or magazines, are the most important instrument that the mothers use. But where the literacy rate is not high, how do you think the messages could be propagated to the mothers? And also don't you think that the contribution of professionals is underestimated because medical professionals or paramedical professionals can increase mothers' awareness during prenatal check-ups.

Dr. Raats: There is a real need for doing work within the areas and with the populations that you want to work with and really to understand the world that people live
in and where they draw their information from. So, you need to do work before actually getting out there and changing things. There is a whole range of methods that you can use which are both qualitative and quantitative, but you need to study the reality of the world within which people operate and what decisions they make, where they get their information from. Then, if you want to think about changing that you also need to understand the totality of the environment, not just how the mothers view the world but also how the world in which they live views them. That's another important thing to consider because you can come in and change things and that might meet the way that mothers would accept and take messages. But you might also have to create changes in the system and the way it treats and works with parents. So you also need to do a lot of work to understand the systems within which you want to create the changes.

**Dr. Singhi:** I think that what our colleague from Bangladesh said is to some extent true for us in India. Do you think that the leaflet has a big impact? Are these leaflets prepared by health professionals or non-health professionals? And if this is not a working mother, would these perceptions change?

**Dr. Raats:** I think you have highlighted important points. This is just a reflection on what people say, it isn't even necessarily what they do because even if we ask ourselves to reflect on what influences the decisions that we make it's still only a reflection of what we think is influencing ourselves, not necessarily what is the case. And so in some sense studies are needed to be done where you implement interventions where you use some of these materials and you look at what the effects are rather than just asking people like we have done. There is a need for studies to better look at that, and I think what will work and how that happens and how you study that in one country might be very different. That's partly the big problem we have in this area of evaluating interventions. You can't within even a very small region like Europe just take the learnings from one country and introduce them somewhere else. What works in one part of the world and what consists of an intervention will be different in different areas, so they need to be put together differently, but we can very easily build up this standardized evidence base which will suggest what works and why.

**Dr. Singhi:** Behavior is influenced by culture, and we have something similar in the way parents perceive their children and their illness. Europe differs completely from Asia and Asia differs completely from Latin America.

**Dr. Raats:** I think one of the things that we probably didn't look into as much is the interrelationships between people. People especially at this time in life draw information, as you do with most topics, from people around them. How to measure and quantify and actually even get explicit what it is that you draw in terms of the information from your peers and from the world within which you live is very difficult, and because again it's very complex, it's not as controllable as a leaflet or the communication from a health professional, and it's actually what is more likely to be influencing people. So again, how do you study that, how do you control for that and how do you create a change by having to change whole communities within infant feeding. It's not just the parent who is doing the feeding who makes the decisions, they are being influenced by the decisions made within the family.

**Dr. Ivarsson:** I find this area of promoting behavior change challenging, but at the same time extremely important from a public health perspective. I am responsible for developing and implementing a child health promotion program, beginning with antenatal care, continuing within the child health care arena, into preschool, and up through school years. In my experience, one problem is that professionals give conflicting messages which confuse parents and children. From your experience, do you have any advice on how to handle this?
Raats

**Dr. Raats:** I think at one level we need to reflect back on ourselves as scientists and say that we have great difficulty into coming to conclusions about certain things and then finding ways to imbed that in the system. I think there is a lot of pressure that you come up with unique results and so quite often we don't see the efforts going into trying to get the consistency of message and decisions around consistency, and where that has to happen and where that agreement needs to lie, who is it that has to come to these decisions. It's difficult in an area where there is relatively strong emphasis on coming up with consensus view on things. That's maybe not the case in some other countries. I think it comes back to really understanding your country and how it works in your environment as to how some of those decisions and what would work and what would be the suggestions in one place might be different somewhere else because of the traditions that you have of formulation of advice and ways of doing things.

**Dr. Ruemmele:** Do you have experience with targeted intervention just after birth? We have a program in France to improve the rate of breastfeeding which has been very low over the last years. There is very good evidence that if you have targeted intervention in the maternities the day of delivery and the days after, you markedly improve the rate of breastfeeding over a prolonged period. Can you give us some advice on how to push this in the countries like in the North?

**Dr. Raats:** I think there it's important to understand the health care system and whether you have the things in place to be able to do that. I know that in the UK we have a lot of pressure on our health system and there isn't the staff to have the time to spend necessarily with people, and so it could be that what works on paper and looks to work in some places might not be that transferable unless you have a system in place which would allow for that to operate.

**Dr. Thakre:** It was interesting to hear the western perspective. My question is how would this be in a country like India with numerous culturally driven practices that significantly influence the decision to breastfeed, to wean and also the healing of a child?

**Dr. Raats:** The starting point is to really understand and do the work to understand why people do what they do, and that will be different for the exact reason that you say that there are different culture practices. To have an in-depth understanding of why decisions have been made and behaviors exist is very much the starting point that one needs to do. The methods that you would use to do that in one country are not necessarily that different than in another country, but it is a different set of data and a different starting point and it's only then that you can start to think about how you might make changes to the system. So, it's not understanding the practices at the individual level but it's also understanding all the layers up to the level of a nation in terms of how it's organized that you need to first have in place before you can think about how best to make some of those changes. I think you probably do in many countries have data on that, and it's really the starting points and then you can reflect on and learn from other places. I think what we in western countries often don't do is realize that there is a lot that we can learn from developing countries where I think you have had a lot of experience in introducing changes in ways that we haven't been able to do because we have so-called free markets, but there is data out there and learnings to be had. At the moment, I am working in another project looking at policies around micronutrient intakes, and there is probably more interesting work being done in developing countries to be learned from because programs have been implemented and created to introduce behavior changes in ways that wouldn't have been possible in some of the western countries.

**Dr. Solomons:** Your studies projected to me a sort of neuroticism, it sounded so neurotic, all these people are neurotic, and I wonder whether or not that is true and if it is true whether or not the scarcity of having a child in both of the settings that you
mentioned, China and the UK, people do it later in life in the UK and maybe only once or twice in China and have to have a good outcome, bills on neuroticism which is not seen in the country where I live or where Dr. Cooper lives, where first of all girls are always around feeding children, this from birth onward. They know about it, they have lots of siblings, they expect to have lots of children, and unfortunately when a child dies it's not an unusual catastrophic event because it happens often, so that somewhat reduces the pressures all around. I just wonder whether the situation in the UK and China and the situation in Guatemala, where the median age for the first child is 17, it's sort of as natural as rolling out a tortilla.

**Dr. Raats:** I think you're making an interesting point, and I think it's an interesting comparison. In the countries in which choices are not made that frequently, decisions are made in a different way, and I think that translates to other behaviors in life.

**Dr. Bier:** I have listened to the discussions dealing with the US and western countries now for more than 40 years, I have watched the initiation of breastfeeding, and then 6 months or 1 year later the 6-month rate is downward, it has always been. Are we doing something wrong, I mean I am sitting and listening to the same conversations I had in 1960 with the same kind of numbers. Can you give me five things that I know if I do now I'll have an infant who is exclusively breastfed at 6 months?

**Dr. Raats:** Change things at top level, don't focus on the individual. I think structural changes that make some of the decisions easy will make the biggest difference. These are some of the interventions I think that we have not been able to study. I think there has been a lot of focus on pushing the decisions down to the level of the individual, and the thought is that the focus on getting it right, getting the wording right might be the means to which change will happen. I think that's why it has been difficult to change things because you have to change things quite deep within people and within practices in the way society operates, and until we change some of those things I think we won't see the changes we'd ideally like to see because there are somewhat tougher decisions to make than changing the wording or the format of a leaflet or a booklet.

**Dr. Haschke:** I would like to address a point which is unique. It's the week program in the US. This program to give a free supply of infant formulas to almost 50% of the population doesn't exist in any other country of the world. I am not saying this is good or bad because the intentions are good to help and support good nutrition of the mother and the child, but the way in which it is executed and how it might interfere with breastfeeding, especially in the duration of breastfeeding, could be an issue.