ORIGINAL ARTICLE

‘EVERYBODY GIVES WATER TO THEIR INFANTS’: 
THE BARRIER FOR EXCLUSIVE BREASTFEEDING 
PRACTICE IN KELANTAN, MALAYSIA

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Abstract

Objective: Many mothers and infants are not able to achieve the maximum benefits through exclusive breastfeeding in the first six months of life. Adding water to breastfeeding infants is one of the main obstacles. This study explores pregnant women’s beliefs and experiences regarding the practice of giving plain water to infants below six months of age. Methods: A qualitative study using focus group discussion was conducted among pregnant women attending the governmental health clinics in the district of Pasir Mas, Kelantan. Four groups of six to eight participants in each group were involved in discussions moderated by a trained researcher. The discussions were audio-recorded and thematic analysis was conducted to identify the emerging themes and categories. Two in-depth interviews were also conducted to enhance the validity through methodological triangulation. Results: The analysis identified an important theme: ‘Everybody gives plain water to their infants before six months of age’. Almost all participants fed their infants with plain water, and they believed that it was a right practice. Their mothers, mother-in-laws and husbands were routinely advising them to do so. They were not informed to avoid feeding their infants with water. Their main concern was related to infant’s hunger, thirst and constipation. Conclusion: Breastfeeding education needs to be improved by clearly communicating the message of not to give water. The strategy should comprehensively include the influential people in the community.

Keywords: Exclusive Breastfeeding, Focus Group Discussion, Water, Six Months

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Introduction

All mammalian species feed their newborn infants with their own milk for them to grow and survive. However, unlike other mammals, human mothers have challenged this natural behaviour by giving other milk, food or drink to their infants. It was driven partly by the belief that they cannot produce enough breast milk to meet their infants’ needs. While trying to satisfy their infants, mothers feed them with other foods or drinks in addition to breast milk. It is obviously not following the globally accepted recommendation of exclusive breastfeeding for the first six months of an infant’s life. During that period, an infant should receive only breast milk, without any additional solid or liquid, except for oral rehydration salt, drops, syrups of vitamins, minerals or medicines [1,2].

Various researches have proven the benefits experienced by infants and mothers who practised breastfeeding compared to those who do not [3-6]. Interestingly, those benefits are dose-dependent, with infants who breastfeed longer and more exclusive demonstrating greater reductions in diseases, especially gastrointestinal infection, pneumonia and recurrent otitis media [7,8]. In addition, a review of two randomized controlled trials found giving additional water or glucose water had no benefits to newborn infants, and it was associated with increased risk of early cessation of breastfeeding [9]. Those findings support the above recommendation of exclusive breastfeeding in the first six months of life. However, it is still not optimally practised by mothers in many part of the world, including Malaysia. A nationally representative data allows for comparison of exclusive breastfeeding below four months, and it shows a decreasing trend, from 29.0% in 1996 to 19.3% in 2006, with only 14.5% infants below six months received exclusive breastfeeding [10].

Thus, it is important to understand why those mothers do not follow the recommendation. Cultural beliefs, myths and ignorance are among the factors contributing to low breastfeeding practice in Malaysia, as commented by the Ministry of Health’s Family Health Development Director [11]. Among them is the belief that breastfed infants need water in addition to breast milk during the first six months of life. There are mothers who avoid giving formula milk because they know breast milk is the best, but they do not know nor convince that it is all the infants need, not even water. The National Health and Morbidity Survey conducted in 2006 found 19.7% of infants between the ages of two to three months were given breast milk but added with plain water [10]. However, non-milk liquids or fruit juice was not commonly given to those below two years old.

Therefore, to improve exclusive breastfeeding practice, it is important to deliberate on this issue. A qualitative research allows for a detail exploration of the mothers’ views, beliefs and understanding. One of the qualitative research techniques to collect data is focus group discussion (FGD), involving interaction and discussion among group members to learn more about their feelings and opinions [12]. This study aims to explore pregnant women’s beliefs and experiences regarding the practice of giving plain water to infants below six months of age, to gain insights into the factors influencing exclusive breastfeeding practices in Kelantan, Malaysia.

Methods

This qualitative study used phenomenology
as the methodological framework. A phenomenological study aims to ‘understand and describe the participants’ experiences of their everyday world as they see it’ [13]. It was conducted from April to June 2011 among pregnant women attending the governmental health clinics in the district of Pasir Mas, Kelantan. A written approval was obtained prior to the study from the Research Ethics Committee of both the Ministry of Health and Universiti Sains Malaysia. Women who were pregnant regardless of their gestational age, having their antenatal follow-up at the governmental health clinics, have had at least one previous live birth and were not having any disease or condition medically known to be contraindicated to breastfeeding were eligible for the study. Those who were not able to communicate in Malay language were excluded. The district health officer identified three health clinics from where the participants for the study were selected. The selection was based on health clinics with available facilities to conduct a group discussion.

The participants from the three health clinics were recruited through a stratified purposive sampling based on their occupational status. Method for data collection used in this study was FGD. It uses the group interaction to learn more about their thoughts and opinions. The staff at the corresponding health clinics identified a group of six to eight housewives, as well as another group of working mothers. They were contacted by the researcher to explain about the study and a meeting date agreeable by all the group members was set. A theme list was developed to remind the moderator of the issues to be discussed. It covered the participants’ views about feeding plain water to infants below six months of age, their beliefs, feelings and previous experiences.

A moderator, a note-taker and an assistant were present during each FGD, which was conducted at the meeting rooms in the health clinics. Before starting the FGD, the moderator explained about the conduct of the FGD and the participants’ roles, and obtained written informed consent from the participants. Once started, the discussions were recorded by the note-taker by writing and audio-recording. At the same time, the note-taker also noted and recorded any non-verbal cues during the FGDs.

Each FGD was analysed before conducting other FGD with another group of participants. The thematic analysis started with development of a transcript, produced by the note-taker when she transcribed verbatim the discussion. The transcript was then verified by the researcher who moderated the FGD. It was read through repeatedly, and the researcher annotated and coded the transcript. Themes and categories were identified from the FGD. The process was repeated for the following FGDs. Similar themes and categories from the different FGDs were collected and the differences were recorded. The process continued until data saturation was achieved, and no new data was developed.

In order to strengthen the credibility of the research, the study attempted to achieve methodological triangulation. It refers to a convergence of information from multiple sources to corroborate the data and evolving themes [12]. Thus, two in-depth interviews (IDIs) were conducted with pregnant women who were not involved with the initial FGDs. The interviews were based on similar theme list used in the FGDs, and they were also audio-recorded and transcribed verbatim. Coding, themes and categories derived from the IDIs were identified and compared with those achieved from the FGDs.
Results

There were four FGDs with a total of 28 participants involved in the study. Two groups consisted of housewives and another two groups were working mothers. They were teachers, nurses, clerks, shop assistants and businesswomen. In addition, two housewives aged 33 and 43 years old were involved in the IDIs. Table 1 shows the socio-demographic characteristics and breastfeeding experiences of 27 participants. One participant did not return the personal form, thus her information was not included in Table 1.

Table 1. Socio-demographic characteristics and breastfeeding experience of FGD participants (n=27)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (SD)( ^a )</th>
<th>Freq (%)( ^b )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (year)</td>
<td>34.4 (5.25)</td>
<td></td>
</tr>
<tr>
<td>Duration of education (years)</td>
<td>11.5 (2.10)</td>
<td></td>
</tr>
<tr>
<td>Occupational status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housewife</td>
<td>13 (48.1)</td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>14 (51.9)</td>
<td></td>
</tr>
<tr>
<td>Age of husband (years)</td>
<td>38.7 (5.52)</td>
<td></td>
</tr>
<tr>
<td>Duration of husband’s education (years)</td>
<td>10.8 (1.86)</td>
<td></td>
</tr>
<tr>
<td>Number of children born alive</td>
<td>2.8 (1.36)</td>
<td></td>
</tr>
<tr>
<td>Ever breastfed previous infants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>27 (100)</td>
<td></td>
</tr>
<tr>
<td>Ever practice exclusive breastfeeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2 (7.4)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>25 (92.6)</td>
<td></td>
</tr>
</tbody>
</table>

\( ^a \) standard deviation
\( ^b \) percentage

Analysis of the FGDs and IDIs identified an important theme: ‘Everybody gives plain water to their infants before six months of age’. Almost all participants believed that every mother fed their infants with water, particularly plain water. They even accepted and agreed with the practice. Four categories in relation to the theme were developed from the analysis, and they were as followed:

1) The practice of giving plain water

All participants who were working mothers claimed that they gave plain water to their previous infants in the first six months of
life. Interestingly, nurses were also among those who did so. The participants started to introduce plain water very early in their infants’ life. Many of them had given plain water while they were still in the post-natal ward. Some of them stated as below:

“Orang beri belaka air (everybody gives water)”, KL, housewife, FGD.

“Jururawat dekat rumah saya pun beri air masak, semasa dalam wad lagi selepas bersalin (my neighbour who is a nurse also gives water, even in the ward after delivery)”, Z, housewife, FGD.

“…sebab di hospital pun, macam lepas bersalin, mesti ada botol susu untuk beri air masak (…because after delivery in hospital, there must be bottles for feeding baby with plain water)”, A, housewife, FGD.

“Tak tahulah ada ke orang yang tak beri air masak sampai enam bulan, tapi kebanyakannya bagilah (I do not know if there is anybody who do not give plain water until six months, but mostly people give)”, Z, housewife, IDI.

Meanwhile, only two mothers who were housewives never gave plain water to their infants, thus meeting the criteria of exclusive breastfeeding until six months of their infants’ age.

ii) The relationship between giving plain water and exclusive breastfeeding

All the participants who gave plain water to their infants were satisfied with the practice. They believed that they had done their best by breastfeeding their infants. For them, mothers were not doing right if they gave infant formula, but the issue of mixing breastfeeding with plain water was not of a concern. It was partly due to inadequate knowledge on the definition of exclusive breastfeeding. Almost all of them did not know that infants only need breast milk as their nutritional source in the first six months of life. Some of them mentioned as below:

“Saya menyusu sepenuhnya tapi campur juga dengan air masak. Kalau susu tin, memang saya tak belilah (I fully breastfeed my infants but I mix with plain water. I never buy infant formula)”, Y, teacher, FGD.

“Tanpa air masak tu kita tak pernah dengar. Dia [jururawat] hanya kata penyusuan susu ibu eksklusif tapi dia tak cakap eksklusif itu tidak termasuk air masak (We never heard about not giving plain water. She [nurse] only mentioned exclusive breastfeeding, but did not tell us that exclusive breastfeeding means not to add plain water)”, A, teacher, FGD.

In addition, there was a wide spread belief among the participants that different side of the breasts had different functions. The y claimed that the right side of the breast contained food or rice and the left side was water. The belief had an important consequence on their practice. One group claimed that infants did not need additional water anymore because they already received it from the left side of the breast. However, in contrast to that, another group of participants felt that there was no harm to feed the infants with water since they were already exposed to the water from the left side of the breast.

iii) The advice to give water

Almost all the participants had received advices to give plain water to their infants in the first six months after delivery. The most
commonly mentioned people who influenced the practice were their mothers, mother-in-laws, husbands, friends and other older people. It was expressed as below:

“Ibu kita ke, mak mertua ke, memang suruh bagi air masak (Our mother or mother-in-law will definitely ask us to give plain water)”, M, nurse, FGD.

“Kalau kita tinggal sendiri tidak mengapa. Kalau tinggal dengan mak mertua, anak menangis dia tanya tak beri air masak ke? Tak payah orang tuaalah, suami saya pun, dia kata bagi-bagilah air masak tu (If we stay alone is okay. If we stay together with mother-in-law, if our baby cries she will ask why don’t you give plain water? Not just old people, my husband also forced me to give plain water)”, S, housewife, FGD.

“Adalah kawan-kawan, kalau anak dia kuning dia bagi air masak. Dia suruh kita bagi jugalah (My friends gave plain water if their babies had jaundice. They also ask me to do the same)”, Z, housewife, IDI.

**iv) The reasons for giving plain water**

A majority of the reasons given by the participants to add plain water were related to the infants. They almost always correlated crying with hunger. Whenever their infants cried, the participants believed that they were hungry. Thus, for them, their breast milk was not enough to satisfy their infants and need to be complemented with plain water. A clear example was as quoted:

“…macam anak menangis, bosannya denga, tak cukup susu. Dia [mak mertua]suruh suap air masak (…like when the baby cries. It’s disturbing to hear, not enough milk. She [mother-in-law] asks me to feed with plain water)”, A, housewife, FGD.

In addition, like adults, they felt that the infants need plain water to prevent thirst. Even though they already fed with breast milk which is full of water, they still referred it as food. Thus, they supplemented with additional plain water. Water was also needed to wet the infant’s mouth, throat and tongue. Similarly, they used the plain water to wash away the left-over milk in the infant’s mouth. Another reason for using plain water was for the prevention of constipation. Below were the statements given by some of the participants:

“Nanti anak kita kering tekak sebab air susu tu pekat (The baby will be thirsty because the breast milk is concentrated)”, Z, housewife, FGD.

“Selepas menyusu dada, saya bilas tekak anak saya dengan air suam, takut dia ada sisa-sisa susu (after breastfeeding, I wash my baby’s throat with plain water. I am afraid there is some left-over milk)”, A, housewife, IDI.

Interestingly, some participants gave plain water very early in the infant’s life as a training method for the infant. They believed that the infants needed to be trained so that they will drink plain water when they grew up later. One of them said:

“Biasanya selepas susu dada, kita beri juga air masak sebab kita nak ajar dia. Nanti bila kita dah beri susu campur, dia manis, jadi kena tambah air masak. Kita ajar dari kecil lagi untuk minum air masak. Kalau tidak, bila besar susah baru nak ajar minum (I usually give plain water after breastfeeding because I want to train my baby. Later, when I mix with
infant formula, it is sweet and I need to add with water. So, I teach him from now. If not, it is difficult if I only teach him to drink water when he already grows up)”, A, housewife, FGD.

Among other reasons, there were reasons related to the participants themselves. One of them was lack of knowledge. Many of them did not know that plain water was not needed in addition to breast milk in the first six months of life. One of them quoted as below:

“Sebelum ini memang saya tidak tahu bahawa tidak mengapa kalau tidak beri air masak (Before this, I never know that it is okay not to give plain water to the baby)”, A, teacher, FGD.

Discussion

Our study demonstrated that infants below six months of age were commonly given plain water. Even though some of them were not introduced with infant formula, they were given plain water in addition to breastfeeding. It was in accordance to the findings from the national study conducted by the Ministry of Health [10]. Similar situation was reported in other studies elsewhere. In Turkey, one of the themes emerged from a focus group discussion was ‘water is essential for babies’, and they mentioned that everybody gives water to their infants [14]. A qualitative study conducted in Mozambique also noted a widely held belief that infants need to drink water in the first six months of life [15]. About 25% of Latino infants from a study in the USA were found to be supplemented with water or tea, with water being more commonly given than tea [16]. However, in Lesotho, most infants were supplemented with water, sugar and/or salt compared to plain water [17].

We also found that infants were given water in the very early age of life. Similarly, in Brazil, 5.9% and 58% of infants involved in a study were given plain water on the first day after hospital discharge, and at four months old, respectively [18]. Almost one-third of mothers in Ghana gave water to their infants soon after delivery and within one month of life [19].

The belief that every mother gave plain water to their infants, and that the practice was acceptable led to an important insight in breastfeeding promotion. The mothers and their infants were not able to receive the maximum benefits of exclusive breastfeeding, and at the same time, put their infants at a high risk of diseases related to early introduction of other food, especially water. These include impairment in the infant’s nutritional status, growth, development and survival through replacement of the nutrient-rich breast milk with water which have little or no nutritional value. In addition, supplementing with water also put the infants at risk of diarrhoeal diseases [20].

The findings also pointed out an inadequacy in the existing breastfeeding education. All governmental health clinics and hospitals were following the National Breastfeeding Policy, and the Ministry of Health has revised the Malaysian Dietary Guidelines in 2010. The current recommendation is to encourage exclusive breastfeeding for six months, and all mothers should receive education on breastfeeding even during pregnancy. Since mothers involved in this study were those seeking antenatal follow-up at governmental health clinics, they should have adequate knowledge on breastfeeding. However, almost all of the mothers did not know that giving plain water was not recommended in the first six months of life.
Besides inadequate knowledge, this study also identified influential people who usually advised mothers to give water to their infants. Among all, their mothers, mother-in-laws and husbands were routinely mentioned by the respondents. These people were not commonly met at the health clinics, thus they were less exposed to the current information on breastfeeding. In contrast, the major sources of advice to give water among women involved in a study in Lesotho were the woman herself and the health care provider. During the study, the recommendation of exclusive breastfeeding for six months was still new, and many nurses were still not aware of it. However, the grandmothers claimed that they never gave water to their infants before and it was a new practice [17].

Satisfaction of hunger, prevention of thirst, cleaning of infant’s mouth and prevention of constipation were the common reasons for giving water. The reasons were also given by other mothers to feed their infants with water [15-19]. Surprisingly, nurses also gave a reason of preventing constipation for recommending water [17]. Similarly, the respondents in this study had highlighted the issue that nurses also gave water to their infants, and it happened while in the postnatal ward. The above reasons were not scientifically based. As high as 88% of breast milk composed of water, and it exceeds the requirement of a normal infant, even during hot weather [20]. Thus, water is not needed in the first six months of life.

Conclusion

It is clear that the issue of giving water needs to be addressed to improve exclusive breastfeeding practice. One important strategy is through improvement in breastfeeding education. The message of ‘do not give water’ needs to be communicated to all, with emphasis on why water is not required and the risk of adding it. However, water is ‘the gift of life’, and many people believe the importance of it. Therefore, a more harmonious message is needed, for example ‘give water to infants only after six months of age’. The education should focus on the common reasons for giving water, and prove their insignificance. It should be in a form of a comprehensive communication strategy, involving not only the mothers, but all influential people in their lives. Their mothers, mother-in-laws and husbands could be approached through an outreach program into the community, and not just a clinic-based strategy.

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References


