



An investigation of risk factors for vitamin D deficiency during pregnancy and infancy in Afghani women and their newborn infants

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Background



- Vitamin D deficiency is a universal public health issue¹.
- Vitamin D deficiency is highly prevalent in New Zealand, it shows the importance of vitamin D deficiency in New Zealand population^{2,3}.
- % 87 of pregnant women in New Zealand have vitamin D deficiency³.
- The health of mothers and their infants depends on adequate vitamin D levels⁴⁻⁶.
- Concealing clothing style among Muslim women can cause vitamin D deficiency⁷.
- Decreasing vitamin D levels, can increase risk of respiratory infections and rickets in new babies⁸.
- Little is known about the risk factors for vitamin D deficiency during pregnancy among Afghani women living in New Zealand.



Aims & Study Design



- **Aim** : Describe the behaviors, which can influence vitamin D status during pregnancy and through the first 12 months after giving birth in Afghani women and their newborn infants.
- **Selection of study participants**
 - We recruited a sample of Farsi-speaking Afghani women.
 - Inclusion criteria: aged over 18 years and had given birth during the past 12 months



Continue Study Design



- **Individual Interview Schedule**

- It was a qualitative study
- Using a semi-structured interview guide, took approximately 30-60 minutes
- Began by describing their life as a warm up question.
- Describe how many hours they spend outside.
- Answered to some questions around vitamin D and their skin exposure to sunlight.
- Describe their infants' sunlight exposure.
- Farsi language was used as the interview language in order to minimize subsequent errors from insufficient translation procedures and to create a more trusting interview environment



Data analysis



- All the records and audiotapes were translated directly from Farsi into English and then fully transcribed.
- Thematic analysis was used.
- All the transcripts were reviewed again and then manually coded.



Results



- 24 mothers, age 18 - 34 years old
- Arrived in New Zealand as Humanitarian Refugees and had lived in state homes.
- Low knowledge of midwives and mothers towards safe sun exposure

My midwife recommended me; I should remove my daughter clothes and cover all her body with sun lotion then put her behind the window to get enough sunlight (27-year old woman).

My midwife advised me "take off your daughter clothes and put her on your skin, so she will get vitamin D through your skin" (23-year old woman).
- Deliberate avoidance of sun exposure,

I like sunlight and I know it's good for our body but New Zealand's sunlight is very sharp and I'm worry about skin cancer (23-year old woman).



Continue Results



- Lack of privacy and Conservative clothing style

We don't have any private yard or balcony. Also I live with my brother in-law. So even at home I always have cover (28-year old woman).

- Indoor lifestyle played

I used to go outside more than now. You know, I'm too busy with 3 children; it's very difficult to do cleaning, cooking, washing, and go for walking (27-year old woman).

- Vitamin D supplementation

When my GP saw me that I have cover, she said I'm at risk of vitamin D deficiency. Then she sent me for blood test. She was right and it was low. She gave me 3 tablets, one each month (27-year old woman).



Continue Results



- Breastfeeding

Both of my children (my boy and my girl) were fed with my breast milk (27-year old woman).

- Maternal health condition

I had nausea, vomiting, and preeclampsia. Then I got heart failure, I breathed with difficulty and because of them I had been hospitalized for one month and also my daughter doesn't grow well (27-year old woman).

- Pregnancy outcomes

My daughter was tiny little girl. When she was born, she had only 1 kg and some thing. Both of children were pre-mature and both of them were born with cesarean (25-year old woman).

- Infant health condition

My daughter has lots of problem. She doesn't grow well, like other children; I mean her height is lesser than normal children (25-year old woman).



Discussion



- Provides knowledge about existing barriers, which can affect vitamin D status of Afghani women during pregnancy and their infants.
- Limited knowledge of our participants and also their midwives about the importance of vitamin D and correct sunlight exposure.
- Covering most of the body, lack of privacy, indoor lifestyle, and worry about skin cancer are some barriers for Afghani women achieving inadequate sun exposure.
- Vitamin D supplementation or vitamin D blood test mostly not recommended by participant's General Practitioners (GPs)



Conclusion



- Emphasize the requirement for intervention programs regarding vitamin D.
- Consideration of these socio-cultural barriers before developing public health interventions.
- Increasing awareness of health-care professionals, especially GPs, about patient's culture, religion, and lifestyle.
- Increasing knowledge of health-care professionals about vitamin D and health consequences of vitamin D deficiency during pregnancy and breastfeeding.
- Training health-care professionals, providing enough information for them about different ethnicities.
- Creating facilities for covered women where they can expose themselves to sunshine.



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