

# Low dietary diversity, food insecurity, and poor mental health among Syrian refugee mothers in vulnerable areas of Greater Beirut, Lebanon

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## INTRODUCTION

- Syrian refugees in Lebanon are facing vulnerabilities that are limiting their economic resources. Food-coping strategies may be increasingly used against food insecurity, compromising the quality and quantity of their diet (UNHCR *et al.*, 2018).

## OBJECTIVES

- This study aimed **(1)** to assess the prevalence of low dietary diversity, food insecurity, and poor mental health of Syrian refugee mothers in Lebanon and their correlates, **(2)** to explore associations with anemia and nutritional status, and **(3)** to examine food groups consumption according to the household income.



Abou-Rizk, 2018

## METHODS

- A cross-sectional study was conducted in June-September 2018. Mothers with children under 5 years (n=433) were recruited from primary health care centers in vulnerable areas of Greater Beirut, Lebanon. Data were collected during face-to-face interviews and analyzed, as follows:

Low dietary diversity	Food insecurity	Dietary intake of mothers	Mental health status of mothers
<b>(1)</b> Minimum Dietary Diversity for Women of Reproductive Age (MDD-W) (FAO, 2021)	<b>(2)</b> The global Food Insecurity Experience Scale (FIES) at the individual level (FAO, 2018)	<b>(3)</b> 24-hour dietary recall (Conway <i>et al.</i> , 2004) <b>(4)</b> Food frequency questionnaire (past 12-months) (El Sayed Ahmad <i>et al.</i> , 2020)	<b>(5)</b> Depression: Patient Health Questionnaire (PHQ-9) (Sawaya <i>et al.</i> , 2016) <b>(6)</b> Post-traumatic stress disorder (PTSD): Mini International Neuropsychiatric Interview (Kadri <i>et al.</i> , 2005)

- The monthly household income was categorized into low-income (defined as  $\leq$  750.000 LBP) and high-income ( $>$  750.000 LBP; equivalent to US\$500 in 2018). Crowding index was defined as the total number of residents per household divided by the number of rooms excluding kitchens, bathrooms, hallways, balconies, and garage (WHO, 2018).
- Anthropometric measurements and hemoglobin concentrations were measured using standardized protocols (NIH, 1998; WHO, 2000).

## FINDINGS

- Prevalence among mothers of:

Low dietary diversity (LDD): 63.3%	PTSD: 13.2%
Moderate to severe food insecurity: 34.4%	Moderate depression: 11.1%
Severe food insecurity: 12.5%	Severe depression: 9.9%

Results showed a significant correlation between LDD and individual-level food insecurity ( $P < 0.001$ ). A high crowding index and low-income were significantly associated with LDD and food insecurity. Poor mental health (defined as PTSD and/or moderate or severe depression) was significantly associated with food insecurity and a high crowding index.

Food insecurity was correlated with a lower consumption of main meals and snacks per day, while LDD was associated with the lack of a daily breakfast and a lower number of snacks per day ( $P < 0.05$ ). No association between anemia and nutritional status of the mother and LDD or food insecurity.

High consumptions of grains, fats, oils, sweets, and sugar derivatives were observed. Flesh foods, legumes, fruits, and vegetables were consumed minimally. Low-income households had significantly higher intakes of grains and refined starchy staples, whereas high-income households had higher intakes of highly nutritious food groups (fruits, cheese, olive oil, and flesh foods), sweets, and sugar derivatives ( $P < 0.05$ ).

## CONCLUSIONS

- This study presents evidence of poor dietary diversity and food insecurity among Syrian refugee mothers in an urban setting of a humanitarian crisis and poor nutritional practices and a low diet quality.
- Findings highlight that food insecurity and overcrowding affect the mental health status of mothers.
- Counselling and awareness-raising sensitive to cultural norms need to target mothers and provide psychosocial support.
- Socio-economic disparities, such as the income, shapes the diet structure to a great extent among vulnerable populations.
- A multifaceted action is needed to reduce food insecurity and improve dietary diversity among vulnerable groups, especially women of reproductive age.

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