Gender Differences in Food Insecurity

Subjects: Economics

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Food insecurity (FI) remains a challenge not only in less-developed countries but also worldwide. The literature indicates higher rates of FI for women than men in some regions of the world.

Sustainable Development Goals | Gender | Socioeconomic and demographic characteristics | Food Insecurity

1. Background

As defined by the Food and Agriculture Organization of the United Nations (FAO), food insecurity (FI) occurs when individuals do not have adequate physical, social or economic access to sufficient, safe and nutritious food satisfying their nutritional requirements and food preferences for an active and healthy life [1]. Food insecurity is a substantial problem worldwide [2][3]. Therefore, the United Nations (UN) among the Sustainable Development Goals (SDGs) pointed out the need to “end hunger, achieve food security and improve nutrition and promote sustainable agriculture” [4]. To monitor Target 2.1 of the UN 2030 Agenda for SDGs, the prevalence of moderate or severe FI in the population, based on the Food Insecurity Experience Scale (FIES), has been used as the SDGs Indicator 2.1.2 [5].

Another of the SDGs integral to all dimensions of inclusive and sustainable development is women’s equality and empowerment [6]. This equality should apply to all aspects of life and functioning in society, including especially food security (FS). However, the prevalence of moderate or severe food insecurity worldwide is slightly higher in women compared to men. At a global level, women had about a 13 per cent higher chance of being moderate or severe food insecure than men, and almost 27 per cent higher chance of experiencing severely FI. Two-thirds of countries worldwide reported higher rates of food insecurity for women than men [7]. Even when women have the same level of income, education and live in similar areas as men, their access to food is more difficult. It is worth noting that gender gaps in poverty are the widest in the age of 25–34, which is the period of biological reproduction and childcare responsibilities [8].

A large body of evidence indicates that when women experience poverty, this negatively affects human capital. Poverty is a strong risk factor for FI, almost half of those living in poverty are food insecure [9]. When FS is disrupted, the nutritional value of the diet is initially reduced simultaneously with an increase in the share of energy, mainly from saturated fats and sugar, causing undernourishment and promoting excessive weight gain [10][11][12][13]. Evidence indicates that maternal undernutrition is associated with intrauterine growth restriction of fetus, with

lifelong consequences for the future child's physical and mental development [14][15]. While obesity in women, especially during pregnancy, contributes to the health risks of their children and this deepens the health inequities across generations [16][17][18].

Conversely, women's greater access to income and resources, better nutritional status and higher education result in better health and educational outcomes for their children [19][20][21]. In turn, greater investment in child welfare improves the productivity of the next generation of workers and has a positive effect on economic development [22]. In addition, research shows that women tend to invest as much as 10 times more in their family's well-being, including in children's health, nutrition and education [23][24][25]. Consequently, when women control the household budget, family members tend to have better nutrition status, and children's survival rates increase [26]. It is worth emphasizing that addressing the dietary needs of adolescent girls, as well as women during pregnancy and lactation has been set as the Target 2.2 of the UN 2030 Agenda for SDGs [5].

Despite women's greater vulnerability to poverty, a low share of social protection policy is gender sensitive. Compared to men, women are more often involved in unpaid care and housework, which in turn limits their access to social protection [27]. Moreover, they are more likely to be working in low-paid sectors that do not offer sufficient social protection measures. When households cannot access adequate amount of food, this bias is likely to be reinforced, with negative consequences for the nutritional status and health of girls and women [28][29].

The FI status of a household or an individual is primarily influenced by economic but also sociodemographic factors and others, e.g., gender, employment skills, time, housing status, health status, food/cooking skills or capabilities, health insurance status, social support, past economic hardship and food accessibility [30][31]. Literature shows that these factors may be different depending on the country and/or region. This research focuses on gender differences in FI, which in context of the SDGs of the UN 2030 is particularly important.

2. Food Insecurity Assessment

Achievement of the SDGs largely depends on monitoring and follow-up processes [32][33]. Several methods and indicators are used to estimate FS and monitor its changes worldwide. The Food Insecurity Experience Scale (FIES) is an experience-based metric of food insecurity severity that ensures global comparability [34]. The FIES includes eight questions examining self-reported food-related behaviors and experiences associated with increasing difficulties in gaining access to food due to resource constraints of the individual respondent or of the entire respondent's household (**Table 1**). It is the official instrument used by the FAO to generate estimates of the prevalence of FI in the context of the SDGs' Target 2.1 monitoring [35].

Table 1. Questions in the FIES.

No.	During the Last 12 Months, Was There a Time When, Because of Lack of Money or Other Resources:	Short Reference
(Q1)	You were worried you would not have enough food to eat	WORRIED

No.	During the Last 12 Months, Was There a Time When, Because of Lack of Money or Other Resources:	Short Reference
(Q2)	You were unable to eat healthy and nutritious food	HEALTHY
(Q3)	You ate only a few kinds of foods	FEWFOODS
(Q4)	You had to skip a meal	SKIPPED
(Q5)	You ate less than you thought you should	ATELESS
(Q6)	You ran out of food	RANOUT
(Q7)	You were hungry but did not eat	HUNGRY
(Q8)	You went without eating for a whole day	WHLDAY

Own elaboration based on FAO [36].

The FIES is based on a well-established concept of FI experience consisting of three domains: worry/anxiety, changes in food quality and changes in food quantity [35][37]. With the FIES scale the risk of FI might be identified in communities and individuals in comparable manner in different populations. Based on the number of "yes" answers to questions (the FIES score,) the severity of FI can be accessed, ranging the FS status (zero positive answers) to all symptoms of FI (8 positive answers). FI is typically classified into four categories [35][38][39]:

- Food secure—raw scores of 0;
- Mild FI—raw scores of 1–3;
- Moderate FI—raw scores of 4–6;
- Severe FI—raw scores of 7–8 (see **Figure 1**).

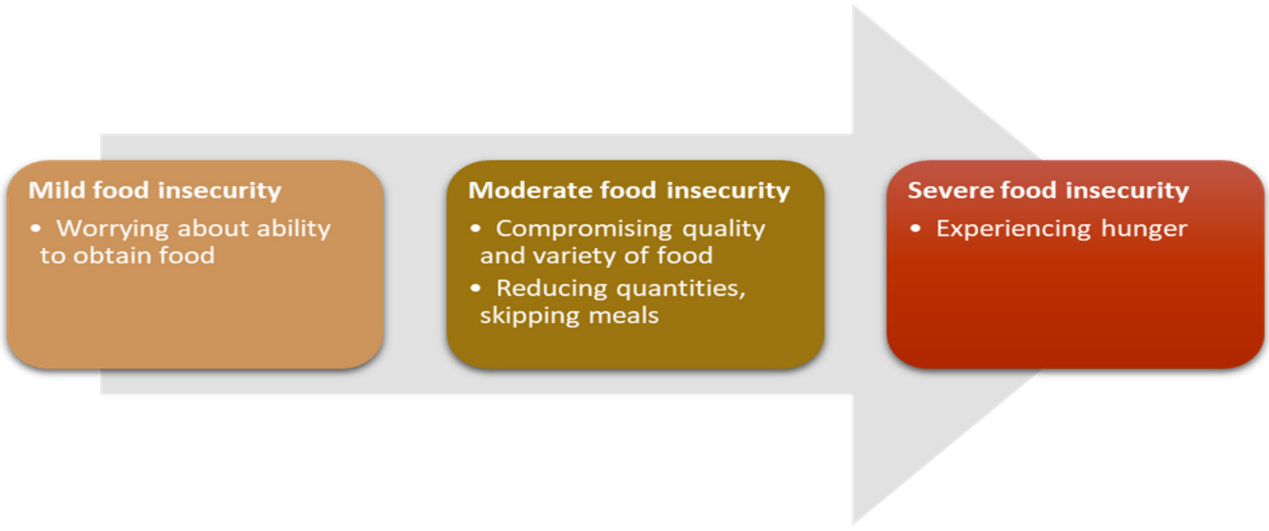

Figure 1. The severity range of food insecurity. Own elaboration based on FAO [36].

The FIES score analyzed in conjunction with the respondent and household characteristics can broaden the knowledge of FI risk factors and consequences on an individual and household level [40][41].

3. Gender in Food Insecurity Research

Most of the studies on FI include gender as one of the explanatory variables [40][42][43][44]. FI scores for women and men depend, among others, on: (i) country/region of residence and (ii) method of FI measurement.

Smith et al. [42] analyzed the FAO's FIES data from 134 countries from 2014 and showed different results for low-income, lower-middle-income, upper-middle-income and high-income economies. Broussard [45] investigating the FAO's FIES data from 2014 for 146 countries worldwide, presented the results for 11 groups of countries, which showed that significant differences in FI between women and men were not observed in all groups of countries. Similarly, Grimaccia and Naccarato [40], considering the FAO's FIES data for over 100 countries, obtained different conclusions depending on the analyzed group of countries. In particular, it was found that in intermediate, less-developed and in the least-developed countries, women experienced FI more often than men, while in very rich and developed countries, the opposite results were obtained [40].

Another issue is the method of measurement. Studies with the binary variable dominate the literature. Specifically, analyzing data based on responses to eight questions in the FIES about the individual's experience with food insecurity, the authors typically apply a cut-off of one out of eight [46][47], a cut-off of two out of eight [45], a cut-off of four out of eight [42][48] and a cut-off of seven out of eight [42][48].

The literature indicates that results regarding gender are sensitive to the chosen cut-off. For the threshold one out of eight [47], a higher prevalence of FI among Polish women than men has been observed. Similar results for the EU were revealed by Broussard [45] with the threshold two out of eight. However, no statistically significant differences at the 0.05 level were found for moderate and severe FI in the EU. These results were also confirmed in the analysis of FI in 2017–2019 for Poland and Lithuania [49], where a higher mild FI among women than men was found, but no statistical difference referring to moderate or severe FI. Moreover, the choice of the model in the FI analysis is not without significance. The few studies using ordered logit models include Grimaccia and Naccarato [40] and Grimaccia and Naccarato . They demonstrated that women experienced more FI compared to men—both globally and at the European level. In analyses where multinomial models were used, the results depend on whether mild, moderate or severe FI has been considered [49].

In addition to examining gender and FI, many studies also take into account various socioeconomic and demographic characteristics. Some factors influencing FI, such as poor education or low income, are universal in countries around the world [42]. Some of them, however, may be unique to a given country or a group of countries [40][42][49].

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