

Assessing Refugee Poverty Using Capabilities Versus Commodities: The Case of Afghans in Iran

Mitra Naseh
Miriam Potocky
Shanna L. Burke
Paul H. Stuart

Abstract: *This study is among the first to calculate poverty among one of the world's largest refugee populations, Afghans in Iran. More importantly, it is one of the first to use capability and monetary approaches to provide a comprehensive perspective on Afghan refugees' poverty. We estimated poverty using data collected from a sample of 2,034 refugee households in 2011 in Iran. We utilized basic needs poverty lines and the World Bank's absolute international poverty line for our monetary poverty analyses and the global Multidimensional Poverty Index (MPI) for our capability analyses of poverty. Findings show that nearly half of the Afghan households were income-poor, approximately two percent of the households had less than USD 1.25 per person per day, and about 28% of the surveyed households were multidimensionally deprived. Results suggest that 60% of the income-poor households were not deprived from minimal education, health, and standards of living based on the MPI criteria, and about 32% of the multidimensionally deprived households were not income-poor. These findings call for more attention to poverty measurement methods, specifically for social workers and policy makers in the field, to gain a more realistic understanding about refugees' wellbeing.*

Keywords: *Refugee, multidimensional poverty, absolute poverty, income poverty*

According to the United States Council on Foreign Relations (2017), currently 28 conflicts are ongoing around the world, none of which are being resolved. These ongoing and unresolved conflicts are one of the main reasons that the population of forcibly displaced individuals rose to the record high number of 65.6 million in 2016 (United Nations High Commissioner for Refugees [UNHCR], 2017a). This means that one in every 113 people on the planet was either an internally displaced person (IDP), an asylum seeker, or a refugee by the end of 2016 (UNHCR, 2017a).

Refugees are forcibly displaced people who have crossed an international border based on a well-founded fear of persecution and sought protection in another country (UNHCR, 2010). For this population, leaving home countries is usually abrupt and unplanned, as the majority flee war or conflict-affected areas (UNHCR, 2017a). This abrupt and unplanned departure frequently leaves refugees with limited social and physical assets and places them at high risk of poverty (Jacobsen, 2005). Adding to this risk, most refugees can only afford to escape to neighboring countries (Jacobsen, 2005); consequently, an overwhelming majority (84%) live in developing countries with limited resources (UNHCR, 2017a). The combined lack of physical and social assets and limited resources in host countries puts refugees in vulnerable positions and prone to experience multiple

Mitra Naseh, MS, Ph.D. Candidate, Miriam Potocky, Ph.D., MSW, Professor, Shanna L. Burke, Ph.D., MSW, Assistant Professor, and Paul H. Stuart, Ph.D., MSW Professor, at the School of Social Work, Robert Stempel College of Public Health and Social Work, Florida International University, Miami, FL 33199.

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deprivations. While studies on refugees' poverty are scarce, they affirm high rates of poverty among some groups of refugees (Alloush, Gonzalez, Gupta, Rojas, & Taylor, 2016; Chaaban, Seyfert, Salti, & El Makkaoui, 2013; Hejoj, 2007; Khawaja, 2003).

This study aims to measure poverty and deprivation among one of the world's largest refugee populations, Afghans in Iran. More specifically, this study aims to answer two research questions:

1. What are the poverty rates of Afghan refugees in Iran?
2. How do these poverty rates vary by the households' demographic characteristics?

To provide a comprehensive answer to the first question, this study utilizes both the capability and monetary approaches in poverty measurement. The study utilizes basic needs poverty lines and the World Bank's absolute international poverty line for the monetary poverty analyses and the global Multidimensional Poverty Index for the capability analyses of poverty. To answer the second question, this study assesses poverty rates by age, gender, and occupational status of the head of Afghan refugee households and by households' refugee status and dwelling types in Iran.

State of Knowledge on Refugee Poverty

Limited studies have been conducted on refugee poverty, particularly in developing countries. Among the published studies in this field, the monetary approach to poverty is more common and studies with the capability approach are scarce. The literature on refugee poverty in general will be presented first, followed by the literature on poverty among Afghan refugees in Iran. Moreover, since the focus of this study is on Afghan refugees who live in Iran as a temporary host country, only literature relevant to refugee poverty in temporary host countries will be reviewed. The countries that refugees first arrive to in search of safety and protection are known as temporary host countries. Refugees in these countries generally receive temporary protection until they find a durable solution for their displacement. According to the UNHCR, and based on the 1951 Convention Relating to the Status of Refugees, three categories of durable solutions exist: 1) voluntary repatriation to the country of origin, 2) local integration in the temporary host country, and 3) resettlement in a new country (UNHCR, 2010, 2017b).

Among the studies that we retrieved on refugee poverty in temporary host countries is a study by Khawaja (2003) in Jordan. In this study, 60% of the refugees who were surveyed in 12 refugee camps said they did not have enough money to make ends meet. Approximately 27% of the respondents to the same survey reported income that was below 50% of the income they said they needed. Also in Jordan, another study found that 41.8% of surveyed Palestinian refugees in two camps lived below a poverty line set at 50% of the median self-reported needed income (Hejoj, 2007). Chaaban and colleagues (2013) found that 27% of refugees in Lebanon were poor based on basic needs poverty lines, and 40% were multidimensionally poor based on the capability approach and the authors' index capturing refugees' health, food security, adequate education, access to stable employment, decent housing, and possession of essential household assets. Income poverty rates for Syrian refugees were 90% in Jordan and 70% in Lebanon based on the respective national

poverty lines (UNHCR, 2016). In a study among 545 households in three Congolese refugee camps in Rwanda, income poverty ranged between 73% and 76% and multidimensional poverty, based on the global Multidimensional Poverty Index, ranged between 22% and 47% (Alloush et al., 2016).

The above-identified studies associated refugees' poverty with place of residence, years of residence in host countries, household sizes, age groups, education levels, and employment of the head of the households. Lower poverty rates were reported for refugees living in urban and rural areas (Alloush et al., 2016; Jacobsen, 2005), longer periods of residency in host countries (Khawaja, 2003), higher levels of education (Hejoj, 2007; Khawaja, 2003), and households with an employed household head (Hejoj, 2007). Reported poverty rates were higher among refugees aged 60 and older (Hejoj, 2007), those in retirement ages (Khawaja, 2003), those living in refugee camps or settlements (Alloush et al., 2016), and households with six or more children (Hejoj, 2007).

Despite the large population of Afghan refugees in Iran, we found no previous study on Afghan refugees' poverty in this country. According to the UNHCR latest global trend report, one in every nine refugees worldwide is from Afghanistan and around 40% of this population resides in Iran (UNHCR, 2017a). Lack of information and the political sensitivity of the topic for the Iranian government could be among the reasons for the absence of studies in this field (Tober, 2007). While lack of information is a major problem, the limited available reports and studies on Afghan refugees indicate the existence of deprivation in different aspects of refugees' lives, specifically in health and education. Among the reported health concerns for Afghan refugees in Iran are high child mortality rates and malnourishment. A study on Afghan refugees who lived on the border of Iran, Afghanistan, and Pakistan reported a 50% death rate for children under the age of five (Poureslami, MacLean, Spiegel, & Yassi, 2013). Another study on Afghan refugees in the Pakdasht area in Iran indicated that 11% of the Afghan children under the age of five were underweight and 8.5% were stunted in physical growth (Abdollahi et al., 2015). A more recent study on Afghan refugees in Tehran and Mashhad cities showed that over 60% of the surveyed households suffered from moderate to severe food insecurity (Omidvar, Ghazi-Tabatabaie, Sadeghi, Mohammadi, & Abbasi-Shavazi, 2013). Moreover, studies on Afghan refugees in Iran indicated low levels of education among this population. Adelkhal and Olszewska (2007) reported that only 33% of the school-aged Afghan children were enrolled in schools in 1998 and Garakani (2009) reported that only 55% of the newly-arrived adult Afghans in Iran were literate in 2002.

The preceding review on the state of knowledge on refugee poverty has demonstrated high rates of poverty among surveyed refugee groups, which calls for further investigations and poverty research among understudied refugee populations, like Afghans in Iran. Moreover, these studies showed that different poverty measurement methods may yield different poverty rates among the same population, which highlights the need for more comprehensive approaches in poverty assessments.

Conceptual Frameworks

The conceptual models of the study are grounded in the monetary and capability approaches to poverty and deprivation. These two approaches underlie the definition of the outcome variable of the study, poverty rates.

Monetary Approach to Poverty

The monetary approach to poverty is the most commonly used method for poverty calculations (Laderchi, Saith, & Stewart, 2003). In this approach, a specific amount of money, the poverty line, separates poor from non-poor individuals or groups (Laderchi et al., 2003). This approach was introduced by pioneers like Booth (1887) and Rowntree (1901) in the 19th and early 20th centuries and has remained the most convenient method for researchers, as it relies on widely available data on households' or individuals' expenditures or income (Laderchi et al., 2003).

In the monetary approach, different techniques are used to construct poverty lines. The most commonly used approach is *the cost of basic needs* (Haughton & Khandker, 2009). In this approach, the poverty line is set at the estimated cost of acquiring adequate nutrition and essentials of living, such as clothing and shelter (Haughton & Khandker, 2009). Another widely used technique to define a poverty line with this approach is asking people what is the minimum amount of income needed to make ends meet? The answer defines a *subjective poverty line* (Haughton & Khandker, 2009). The third commonly used poverty line in this approach is the *absolute international poverty line* calculated by the World Bank based on the minimum cost of essentials of living, which allows a cross-country comparison of poverty (Haughton & Khandker, 2009). In this study, we use the cost of basic needs poverty lines and the World Bank absolute international poverty line for our monetary poverty analyses.

Although the monetary approach to poverty is the most commonly used method for poverty calculations, it has at least two major limitations associated with using money as a proxy to quantify deprivation. One of the main limitations is the flawed assumption of constant purchasing power of money over time and in different locations (Abu-Ismaïl, El-Laithy, Armanious, Ramadan, & Khawaja, 2015). Defined monetary poverty lines are not constantly adjusted to take account of fluctuating exchange rates and inflation rates. Another important limitation of the monetary approach to poverty is the assumption that a specific amount of money necessarily equals fulfillment of specific needs. For instance, a household that can afford primary schooling for children, but neglects it, or a household that has enough money for health care, but does not have access to it, is not identified as poor or deprived using the monetary approach to poverty. However, children of the first household are deprived of education and members of the second are deprived of primary health care.

Capability Approach to Poverty

In the 1980s, the capability approach to poverty was introduced as a response to the above-discussed gaps in the monetary approach (Laderchi et al., 2003). The capability approach was first presented in its modern context by the Nobel Prize winner in economics,

Amartya Sen (Robeyns, 2005). Sen (Sen & Honderich, 1985; Sen, 1988, 1999, 2000) pioneered the capability approach and his work was further advanced later by Martha Nussbaum (Nussbaum, 1992, 2000, 2003). The capability approach explores the ability of individuals or groups to do what they want to and be what they want (functioning), based on their available opportunities and freedom instead of their amount of assets (income) owned (Robeyns, 2005). This approach argues that wellbeing is about opportunities that individuals or groups have to live the lives that they have reasons to value (Robeyns, 2005). Such opportunities could vary among different people in different societies and could be affected by social values, cultural factors, social class, societal conventions, and customs (Clark, 2005). Therefore, this approach fits well with the prominent person-in-environment framework in the social work profession. Like the capability approach, the person-in-environment perspective highlights the importance of understanding individuals and their behaviors in relation with their environment and discusses that people's lives are shaped and have meaning within their social structures (Cornell, 2006).

The capability framework as defined by Sen is flexible, without a fixed list of capabilities (Clark, 2005). However, during the past decades, several researchers have tried to define a list of capabilities for this approach to create an index (Laderchi et al., 2003). Among the more popular indices based on this approach is the Human Development Index (HDI, Robeyns, 2005). The HDI measures life expectancy at birth, adult literacy, educational enrollment, and per capita income (Robeyns, 2005). The United Nations Development Programme (UNDP) has utilized the HDI in its annual human development reports to assess welfare in different countries since 1990 (Robeyns, 2005). However, since 2010, the HDI has been replaced in the annual human development reports with the global Multidimensional Poverty Index (MPI) as a more comprehensive index (UNDP, n.d.). The MPI was designed by Alkire and Santos (2010) at the Oxford Poverty and Human Development Initiative (OPHI) with the financial support of the UNDP (OPHI, n.d.). This index measures deprivation in three dimensions: education, health, and standard of living through 10 indicators (Table 1). Table 1 summarizes this index based on the UNDP technical notes on MPI (Jahan et al., 2015). In this study, we use the MPI for our poverty analyses based on the capability approach.

Variables

Poverty is the outcome variable of the study, and, as discussed, it is defined by the capability and the monetary approaches. Besides estimating the average poverty rates based on these two approaches, this study explores how poverty rates vary based on age, sex, and occupational status of the head of the households and households' refugee status and dwelling types. In this study the outcome variables, poverty rates, are continuous (ranging from 0% to 100%), and households' socioeconomic and demographic characteristics, as independent variables, are categorical.

Age, as the first independent variable of the study, has four age categories of household heads: adolescent (under the age of 18), young adult (ages 18-35), middle-aged adult (ages 36-59), and older adult (ages 60 and over). Biological sex of the heads of the households, as the second independent variable of this study, has two categories, female-headed and male-headed. Occupational status, as the next independent variable of the study,

categorizes heads of households into two categories: employed with a paid job and unemployed (including unemployed individuals who are looking for a job, students, housewives, and those who listed their occupation status as others). Refugee status of the households, as the fourth independent variable in this study, classifies households into two categories: documented and undocumented. Refugees in Iran are documented if they hold valid documentation issued by the Iranian government and they are undocumented if they don't have such a document (Koepke, 2011). If the household head is documented it usually means that all the household members are documented, as refugee documentation cards are issued for a household as a unit in Iran. Dwelling type is the last independent variable in this study and classifies households into four categories: households living in urban areas, rural areas, settlements, and colonies. Settlements are government-run camps, which are usually located in remote areas and far from main cities. Refugees in settlements have access to some humanitarian assistance like free sanitary materials and food items, but usually have limited access to livelihood opportunities due to the remoteness of the camp locations. Colonies usually consist of extended Afghan family members or tribal members who live together in the form of a group. Colonies are usually located on the outskirts of refugee-populated cities.

Table 1. *Dimensions, Indicators, Deprivation Thresholds and Weights of the MPI*

Dimension	Indicator	Deprived if...	Relative Weight
Education	School attainment	No household member has completed at least six years of schooling	16.7%
	School attendance	A school-age child (up to grade 8) is not attending school ¹	16.7%
Health	Nutrition	A household member (for whom there is nutrition information) is malnourished, as measured by the body mass index for adults (women ages 15-49 in most of the surveys) and by the height-for-age z-score calculated based on World Health Organization standards for children under age of five	16.7%
	Child mortality	A child has died in the household within the five years prior to the survey ²	16.7%
Standard of living	Electricity	Not having access to electricity	5.6%
	Drinking water	Not having access to clean drinking water or having access to clean drinking water through a source that is located 30 minutes away or more by walking	5.6%
	Sanitation	Not having access to improved sanitation facilities or having access only to shared improved sanitation facilities ³	5.6%
	Cooking fuel	Using "dirty" cooking fuel (dung, wood or charcoal)	5.6%
	Flooring	Having a home with dirt, sand or dung floor	5.6%
	Assets	Not having at least one asset related to access to information ⁴ and not having at least one asset related to mobility ⁵ or at least one asset related to livelihood ⁶	5.6%

¹ In order to avoid a mismatch between age of the child and beginning of the school year, a late enrollment for a period of up to 12 months was allowed.

² In case that a survey fails to track time of death of a child, any death reported by mother (age 35 and younger) is considered.

³ Definitions for drinking water and improved sanitation are extracted from the Millennium Development Goals.

⁴ Including radio, television or telephone (both landline and mobile telephones).

⁵ Including bike, motorbike, car, truck, animal cart or motorboat.

⁶ Including refrigerator, any size of land usable for agriculture, or livestock comprising of a horse, a head of cattle, two goats, two sheep or 10 chickens

Source: Jahan et al. (2015).

Data Analyses

Afghan refugee households' poverty rates based on the monetary approach were calculated using the cost of basic needs poverty lines and the World Bank absolute international poverty line. In this study, we refer to the former as the income poverty rate and the latter as the absolute poverty rate. Income poverty rates were calculated by comparing Afghan refugee households' monthly income with the related cost of basic needs poverty lines in Iran. Refugee households' monthly income was calculated based on the sum of the households' monthly expenditures on food, clothing, health, education, tobacco, transportation, communication, housing, and energy, plus monthly savings. This calculated income was compared with the basic needs poverty lines that are adjusted for inflation from Ghaedi's (2010) study. A household was categorized as income-poor if the calculated monthly income was less than the basic needs poverty line for its household size.

Afghan refugees' absolute poverty rate was calculated based on a comparison of daily individual incomes with the World Bank absolute international poverty line, which was USD 1.25 per day per person at 2011 purchasing power parity (Haughton & Khandker, 2009). Daily individual incomes were calculated by dividing households' monthly income by the number of household members and an average of 30 days in one month.

Afghan refugee households' poverty based on the capability approach was calculated using the global Multidimensional Poverty Index (MPI). In this study, we refer to the poverty rate calculated based on this method as the multidimensional poverty rate. As noted earlier, the MPI consists of three dimensions and ten indicators. According to this index, a household is deprived in the first dimension, education, if none of the members have completed at least six years of schooling, or if any school-aged child (up to eighth grade) is out of school (Jahan et al., 2015). In the second dimension of MPI, health, a household is deprived if any child has died within the five years prior to the survey, or any member is malnourished (Jahan et al., 2015). In the present study, data on child deaths were collected for the year prior to the survey. The MPI measures malnutrition based on the body mass index for adults aged between 15 to 49 and the *z* score for height to age for children below the age of five (Jahan et al., 2015). However, due to limitations of the dataset in this study, malnutrition was calculated based on the minimum food expenditure required for purchasing adequate monthly calories per adult (ages 15 and above). Food acquisition and amount of money spent to purchase food could be a proxy indicator for nutrition (Thorne-Lyman et al., 2009; Pinstrup-Andersen, & Herforth, 2008; Zezza, Carletto, Fiedler, Gennari, & Jolliffe, 2017).

Minimum required food expenditures were extracted from Khodadad-Kashi and Heidari's (2009) study. Those researchers calculated minimum monthly required food expenditures in urban and rural areas for 2,179 calories per day, which represents an average Iranian diet according to Pajouyan's study (as cited in Khodadad-Kashi & Heidari, 2009). For the present study, these estimated minimum required food expenditures were adjusted with the Central Bank of Iran's (n.d.) reported inflation rates for food and beverages in 2009 (30.2%), 2010 (9.9%), and 2011 (16.6%), resulting in minimum required food expenditures of IRR 641,605 in urban areas and IRR 530,018 in rural areas. Per capita

food expenditures were compared with these two numbers. To calculate the per capita food expenditures, households' spending on food was divided by a weighted number of adults in the family (score 1 for members aged 15 or above, score 0.5 for members between the ages of 2 and 15, and score .25 for members under the age of 2). Households living in settlements were excluded from malnutrition analyses as they receive food baskets from the World Food Programme in Iran (World Food Programme, 2017).

A household is deprived in the third dimension of the MPI, standard of living, if it does not have access to electricity, clean drinking water, improved sanitation, if it has "dirty" cooking fuel, a home with a dirt floor, or lacks assets (Jahan et al., 2015). Households' assets in this method are related to access of information (radio, TV, land line telephone or mobile phone), mobility (bike, motorbike, car, truck, animal cart, motorboat), livelihood (refrigerator, any size arable land), or livestock (a horse, two goats, a head of cattle, two sheep, or 10 chickens) (Jahan et al., 2015).

According to the MPI definition, access to clean drinking water means water is available at the home or the source of clean drinking water is accessible within 30 minutes by walking (Jahan et al., 2015). Due to limitations of the dataset utilized, access to clean drinking water in this study was calculated based on the households' access to piped water at home. Moreover, according to MPI definition, unimproved sanitation includes using public or shared toilets or use of unacceptable privacy types (United Nations, n.d.). Since information about quality of facilities was not available in the selected dataset for this study, only households who shared a toilet or latrine were considered as deprived in this area. Furthermore, due to limitations of the dataset and lack of information about house flooring, this indicator of the MPI (home with a dirt floor) was excluded from calculation.

Using Stata version 14 (StataCorp, 2015), for each household in the dataset, a score of 1 was assigned to each of the MPI indicators if that household was deprived in that area, and 0 was assigned if that household was not deprived in that area. For instance, if none of the members of a household had completed at least six years of schooling, a score of 1 was assigned to the first indicator of the MPI in the education dimension and if at least one member of a household had completed at least six years of schooling, a score of 0 was assigned to this indicator.

In accordance with the MPI definition, the three dimensions of education, health, and standard of living were equally weighted as $1/3$ or 0.33. All indicators within each dimension were also equally weighted. This means that each one of the two indicators in the first and the second dimensions were weighted as $1/6$ ($1/3 \div 2$) or 16.7%. For the third dimension (standard of living), only five out of the six indicators were weighted, as information about house flooring was not available in the utilized dataset. Therefore, each one of the five indicators was weighted equally as $1/15$ ($1/3 \div 5$) or 6.7%. For each household, the deprivation score was calculated by summing the weighted indicators. In accordance with the MPI definition, a household was categorized as multidimensionally poor if the calculated deprivation score was 33.3% or greater.

Results

Demographic Characteristics

The demographic characteristics of the head of the households are shown in Table 2. As seen, the vast majority of households were headed by young (ages 18-35) or middle-aged adults (ages 36-59). Female-headed households constituted a small portion of the sample, seven percent (142 households). Similarly, households with unemployed or undocumented heads had a smaller representation in the sample. Furthermore, nearly one-half of the households resided in urban areas, more than one-third resided in rural areas, and much smaller percentages lived in colonies and settlements.

Table 2. *Poverty Percentages by Demographic Characteristics of Head of Households*

Demographic Characteristic	Sample % (n)	Income Poverty	Absolute Poverty	Multidimensional Poverty
Age				
16-17	0.1% (2)	0% (0)	0% (0)	100% (2)
18-35	34.3% (697)	46.6% (325)	1.7% (12)	31.1% (217)
36-59	51.8% (1,054)	47.8% (506)	2.7% (28)	24.6% (261)
60+	13.8% (281)	44.1% (124)	2.1% (6)	30.6% (86)
Biological sex				
Male	93.0% (1,892)	46.0% (880)	2.1% (40)	27.2% (514)
Female	7.0% (142)	52.8% (75)	4.2% (6)	36.6% (52)
Occupational Status				
Employed	81.1% (1,649)	46.8% (771)	2.2% (36)	27.5% (454)
Unemployed	18.9% (385)	47.8% (184)	2.6% (10)	29.1% (112)
Refugee Status				
Documented	84.3% (1,715)	48.5% (832)	2.2% (37)	25.5% (437)
Undocumented	15.7% (319)	38.5% (123)	2.8% (9)	40.4% (129)
Dwelling Type				
Urban	46.0% (936)	71.8% (672)	1.6% (15)	36.0% (337)
Rural	36.9% (751)	20.5% (154)	2.4% (18)	20.2% (152)
Colony	9.5% (194)	13.9% (27)	0.5% (1)	26.8% (52)
Settlement	7.5% (153)	66.7% (102)	7.8% (12)	16.3% (25)

Research Question 1: Poverty Rates

The three different types of household poverty rates are shown in Table 3. As seen, nearly half of the surveyed households were income-poor, meaning they lived with an average monthly income level less than the basic needs poverty lines. However, only about two percent of the surveyed Afghan refugee households were living in absolute poverty, meaning living with less than USD 1.25 per day. Finally, about one-fourth of the surveyed households were multidimensionally poor, meaning they had a total deprivation score of 33% or higher.

Table 3. *Household Poverty Rates (n=2,034)*

Poverty Type	% (n)
Income poverty	47.0% (955)
Absolute poverty	2.3% (46)
Multidimensional poverty	27.8% (566)

Table 4 shows the percentage of households that were deprived on different indicators of the MPI broken down by the demographic characteristics of the head of the households. Access to electricity, the first indicator in standards of living, was not displayed in the table since in this study, 100% coverage and zero deprivation was considered for this indicator. As demonstrated in Table 4, the greatest deprivations were in the areas of nutrition and school attainment; over one-half of the households were at risk of malnutrition, and nearly half had no member (aged above 13) with at least six years of schooling. Nearly one-fifth of households did not have access to private bathrooms. The remaining indicators showed much less deprivation. Around 10% of the surveyed households had at least one school-aged child out of school; did not have access to clean cooking fuel; and/or did not have at least one of the assets relevant to access to information, mobility, livelihood, or livestock. Less than two percent of the households lacked access to piped water. Four households reported a death under the age of five within the year prior to the survey.

Among the different age groups, households headed by an adolescent or an older adult had the highest rates of deprivation across different indicators of the MPI. Households headed by an adolescent had the highest rates of deprivation in school attendance for children and access to sanitation, clean cooking fuel, and assets. Households headed by an older adult had the highest rates of malnutrition and child mortality, and the lowest rate of access to clean drinking water. Moreover, households headed by a female and an undocumented Afghan had the highest rates of deprivation in all, except one of the indicators, access to clean drinking water. Among the surveyed households, those headed by an unemployed individual had higher rates of deprivation in health dimension and standards of living. Furthermore, the highest rates of deprivation in the two indicators of education were observed among Afghans residing in colonies, the highest rates of deprivation in the two indicators of health were observed among Afghans residing in urban areas, and the highest rates of deprivation in the four indicators of standards of living (excluding electricity) were observed among Afghans residing in settlements.

There were substantial disparities within households across the three poverty measures. Around 60% (571) of the income-poor households were not multidimensionally poor. This percentage signifies that more than half of the households who had a monthly income below the income poverty lines in Iran had access to minimum education, health, or standards of living; in other words, their combined deprivation score in the three dimensions of MPI was higher than the multidimensional poverty threshold. Conversely, 32% (182) of the multidimensionally poor households were not income-poor. In other words, around one in every three households who were deprived from minimum education, health, and standards of living according to the MPI definition, had an income level higher than the income poverty lines in Iran. Moreover, 54% (25) of the refugee households who were in absolute poverty were not multidimensionally poor. This number demonstrates that over half of the refugees who did not have a minimum of USD 1.25 per day had access to minimum education, health, and standards of living according to the MPI definition. Furthermore, 27% (545) of the multidimensionally poor refugees were not in absolute poverty. Members of more than one in every four households, who were deprived from minimum education, health, and standards of living according to the MPI definition, had more than USD 1.25 per day.

Table 4. Percentage of Households Deprived on MPI Indicators and Demographic Characteristics of Head of Households

Demographic Characteristic	All % (n)	Edu 1 ¹ % (n)	Edu 2 ² % (n)	H 1 ³ % (n)	H 2 ⁴ % (n)	SR 2 ⁵ % (n)	SR 3 ⁶ % (n)	SR 4 ⁷ % (n)	SR 5 ⁸ % (n)
Age									
16-17	0.1% (2)	50% (1)	50% (1)	50% (1)	0% (0)	0% (0)	100% (2)	50% (1)	50% (1)
18-35	34.3% (697)	61% (424)	8.8% (61)	45% (310)	3% (2)	1.3% (9)	24% (165)	12% (80)	1.4% (10)
36-59	51.8% (1,054)	34% (354)	11% (114)	63% (659)	0.1% (1)	1.6% (17)	12% (131)	8.3% (87)	0.9% (10)
60+	13.8% (281)	42% (117)	8.9% (25)	64% (180)	0.4% (1)	2.1% (6)	21% (60)	14% (40)	4.3% (12)
Biological Sex									
Male	93.0% (1,892)	44% (826)	10% (183)	56% (1,064)	0.2% (3)	1.7% (32)	17% (318)	10% (187)	1.2% (23)
Female	7.0% (142)	49% (70)	13% (18)	61% (86)	0.7% (1)	0% (0)	28% (40)	15% (21)	7.0% (10)
Occupational Status									
Employed	81.1% (1,649)	45% (745)	11% (175)	55% (902)	0.2% (3)	1.9% (31)	17% (284)	10% (160)	1.3% (22)
Unemployed	18.9% (385)	39% (151)	6.7% (26)	64% (248)	0.3% (1)	0.3% (1)	19% (74)	13% (48)	2.8% (11)
Refugee Status									
Documented	84.3% (1,715)	40% (692)	9.0% (155)	56% (962)	0.1% (2)	1.5% (25)	17% (284)	11% (193)	1.6% (27)
Undocumented	15.7% (319)	64% (204)	14% (46)	59% (188)	0.6% (2)	2.2% (7)	23% (74)	4.7% (15)	1.9% (6)
Dwelling Type									
Urban	46.0% (936)	49% (456)	14% (126)	68% (635)	0.3% (3)	0.3% (4)	13% (117)	3.4% (32)	1.2% (11)
Rural	36.9% (751)	34% (254)	4.1% (31)	60% (451)	0.1% (1)	1.9% (14)	12% (87)	4.5% (34)	0.8% (6)
Colony	9.5% (194)	63% (122)	14% (28)	33% (64)	0% (0)	2.6% (5)	20% (39)	9.3% (18)	1.0% (2)
Settlement	7.5% (153)	42% (64)	11% (16)	0% (0)	0% (0)	6.5% (10)	75% (115)	81% (124)	9.2% (14)
Total % (n)	100% (2,034)	44.1% (896)	9.9% (201)	57% (1,150)	0.2% (4)	1.6% (32)	17.6% (358)	10.2% (208)	1.62% (33)

¹ School attainment: no household member has completed at least six years of schooling

² School attendance: a school-age child (up to grade 8) is not attending school

³ Nutrition: household does not make minimum food expenditure required for purchasing adequate calories per person per day

⁴ Child mortality: a child has died in the household within the year prior to the survey

⁵ Drinking water: not having access to piped water

⁶ Sanitation: not having access to a toilet or having access only to a shared toilet

⁷ Cooking fuel: using a household energy source other than electricity, gas, or gasoline

⁸ Assets: not having at least one asset related to access to information (telephone or desktop computer) or having at least one asset related to information but not having at least one asset related to mobility (motorbike, personal vehicle) or at least one asset related to livelihood (refrigerator)

More specifically, in regard to the MPI indicators, around 48% (432) of the households without a member with at least six years of schooling, around 33% (67) of the households with at least one out-of-school child, around 39% (446) of the households at risk of malnutrition, 25% (1) of the households with child mortality, about 34% (11) of the households without access to piped water, around 38% (137) of the households without access to a private toilet, 25% (51) of the households without access to clean cooking fuel, and 21% (7) of the households without access to adequate assets for living were not income-poor. These percentages underscore that, despite facing deprivations in the mentioned indicators of the MPI, these households held income levels above the income poverty lines in Iran. Additionally, less than 15% of the households deprived in any of the 10 indicators of the MPI were in absolute poverty, meaning that their members had less than USD 1.25 per day.

Research Question 2: Poverty Rates by Demographic Characteristics

The three poverty measures broken down by the previously-identified demographic characteristics are shown in Table 4. Income poverty and absolute poverty rates were highest among households headed by middle-aged (36-59) adults. In contrast, multidimensional poverty was somewhat lower among households with middle-aged heads, affecting about one-fourth of these households, compared to nearly one-third of the 18-35 and 60+ age groups. Among the youngest age group (consisting of only two households), neither was income- or absolute-poor, though both were multidimensionally poor.

Income poverty, absolute poverty, and multidimensional poverty rates were considerably higher among female-headed households compared to male-headed households. Households with employed and unemployed heads had similar rates of poverty on all three measures. Income poverty was ten percentage points lower among undocumented than documented refugees. Yet, the reverse was true for multidimensional poverty, being 15 percentage points higher among undocumented than documented refugees. The absolute poverty rate was similar for these two groups, around 2-3%.

Income poverty was far higher among households living in urban areas and settlements, compared to those in rural areas and colonies. Absolute poverty was much higher among those in settlements compared to the other three dwelling types, yet the reverse was true for multidimensional poverty, which was much lower among those in settlements than the other three dwelling types. Income and absolute poverty rates were the lowest among refugees living in colonies.

Discussion

Overall poverty rates were high among the surveyed Afghan refugee households in Iran. Around half of these households were income-poor and more than one-fourth were multidimensionally deprived. The absolute poverty rate was low (around 2.3%), yet this rate was considerably higher than reported absolute poverty rates in Iran of 0.3% in 2010 and 0.1% in 2013 (The World Bank, 2017). These high rates of poverty highlight the need

for further attention to poverty reduction strategies including humanitarian assistance in the short-term and investment in Afghan refugees' self-sufficiency in the long-term in Iran.

Findings show that income and absolute poverty rates were higher among households headed by middle-aged adults. One reason for this result in our sample could be the larger average family size of this group (mean= 6.2). Average family size among households headed by a middle-aged adult was more than twice the average family size of the two households headed by 16- and 17-year-old Afghans, 1.6 times larger than the households headed by young adults, and 1.1 times larger than the households headed by older adults. Although the basic needs poverty lines are higher for larger households, the per capita income levels could be lower as the total income is divided by a larger number of household members. Unlike income and absolute poverty rates, multidimensional poverty was the lowest among households headed by middle-aged adults, meaning that members of these households were less likely to be deprived in health, education, and standard of living.

All poverty rates were considerably higher in female-headed households compared to male-headed households, which demonstrates vulnerability of this group. Higher rates of poverty among female-headed households could be due to restrictions on access to the job market for female refugees in Iran. Refugees should apply for and purchase temporary work permits to be able to work in Iran (Giles, 2010; Koepke, 2011). Refugee men between the ages of 16 and 60 are eligible to apply for work permits through the Ministry of Labor in Iran (Koepke, 2011). Some refugee women (e.g. female household heads) can also apply for work permits, but the mainstream of Afghan women lack access to this document (Giles, 2010). Moreover, refugees in Iran can only work in specific fields, which are mainly menial occupations that are enumerated periodically by the Iranian Ministry of Labor (Barr & Sanei, 2013; Rajaei, 2000). These labor-intensive occupations automatically exclude female refugees from access to the legal job market in Iran.

In our survey, only 28% of the female household heads were working compared to 85% of the male household heads. Moreover, most Afghan women who had a job at the time of the interview (about 63%) had some level of skill and could be categorized as skilled workers such as nurse, teacher, tailor, and hairdresser. However, most of the employed men (about 54%) were unskilled workers, for instance, construction worker, guard, brick factory worker, greenhouse worker, animal husbandry worker, well digger, daily worker, and garbage collector. It seems that for women, having a skill made it more likely to find a job. A similar situation has been reported among repatriated refugees in Afghanistan (Nurani et al., 2006).

Households with employed and unemployed heads had similar poverty rates. Low-paying legal fields for refugees and lack of job security in Iran may explain this finding. Most of the legal fields of work for refugees in Iran are low-paid menial jobs. Additionally, refugees must pay for costly temporary work permits to be able to work in these low-paid menial fields. According to Koepke (2011), in March 2009, the average cost for a temporary work permit renewal was around USD 300 to USD 500. The high cost of temporary work permits forces a considerable number of refugees to turn to the informal job market in Iran, with lower pay and higher risks of job insecurity. Anecdotal data show that Afghans earn 12% to 20% less than Iranian workers in similar fields, despite working

an average of 10% longer hours per day (Abbasi-Shavazi, Glazebrook, Jamshidiha, Mahmoudian, & Sadeghi, 2008). Moreover, according to Abbasi-Shavazi and colleagues (2008), less than three percent of the Afghans who work in Iran have a written contract with their employer. In our sample, refugees were mainly involved in day labor jobs (28%), which are usually low-paying and labor-intensive with no job security.

Findings show that the multidimensional poverty rate was higher among undocumented than documented refugees (40.4% versus 25.5%). Undocumented Afghan refugees in Iran are subjected to arrest and deportation to Afghanistan (Koepke, 2011); consequently, they live in fear and might lack access to health, education, and standards of living due to their limited rights in the country. Despite this disadvantage, undocumented refugees in our sample had lower levels of income poverty. This could be explained by a younger average age of the heads of the undocumented households (39 years) compared to documented households (44 years). Younger refugees might be more successful in sustaining long hours of labor-intensive jobs. This could be one of the reasons that the average monthly income level was higher among undocumented refugees (approximately USD 635) compared to documented refugees (approximately USD 619) in our sample. Additionally, average household size was lower among undocumented refugees (about 4.9) compared to documented Afghan households (around 5.4) in our sample.

Income and absolute poverty rates were the lowest among refugees living in colonies. As discussed earlier, refugees who belong to one tribe usually live in colonies with close and extended family members and high levels of bonding (Koepke, 2011). The lower rates of poverty among Afghans living in colonies could be an indication that family and social support could help refugees find better livelihood opportunities and sustain income levels higher than the monetary poverty lines. Moreover, the multidimensional poverty rate was lowest among refugees who resided in settlements. This could be the result of access to food baskets in settlements that makes risk of malnourishment minimal among refugees in these settings in Iran. Despite low rates of multidimensional poverty, income and absolute poverty rates were high among refugees in settlements. As discussed, settlements in Iran are in remote areas; therefore, settlement residences have limited access to livelihood opportunities.

More than half of the income-poor households were not multidimensionally deprived, meaning that although they earned less than the required income for basic needs, they were able to fulfill minimum living requirements. Refugees' minimum living standard could be fulfilled despite low levels of income through humanitarian assistance, social support, and unofficial community credit systems. For instance, in our survey 82% of the income-poor refugees in settlements were not multidimensionally poor, which means that they had access to minimal standards of living despite low levels of income. As discussed earlier, refugees in settlements have access to some humanitarian assistance.

Findings also demonstrate that around one-third of the multidimensionally poor households were not income poor, meaning that members of these households were deprived from basic education, health, or standard of living despite reporting adequate income to meet their needs. Lack of access to education, health, or standards of living could be related to lack of information or structural barriers instead of lack of money. For

instance, in our sample refugees in colonies had the least amount of monetary poverty rates, yet more than half of the households had no adult member with at least six years of schooling and they had the highest rate of out-of-school children. As discussed earlier, colonies are usually located on the outskirts of cities, where access to schooling is limited. Moreover, colony refugees are less integrated within the Iranian society and might tend to place less value on education.

Limitations

The dataset for this study was collected in 2011, and the findings may not represent the current situation of Afghan refugees in Iran. However, to the extent of our knowledge this dataset is the largest and most current research-based dataset on Afghan refugees in Iran. Additionally, the utilized dataset in this study was collected by interviewers who were paid for completed questionnaires. Potential related ethical challenges associated with payment to interviewers for completed questionnaires were minimal, for the interviewers were selected from an elite group of Afghan refugees in order to ensure successful data collection. Moreover, all interviewers were informed that the collected data will be cross checked. The utilized dataset in this study was collected by interviewers who were both Afghan students and recipients of the Albert Einstein German Academic Refugee Initiative (DAFI) for pursuing university-level education in Iran. Furthermore, our crossed checked data, through 20 random phone call interviews with refugees who provided their contact information (close to 10% of the sample), showed no major discrepancies and affirmed acceptability of the collected data. Nevertheless, bias was observed in selection of Afghan communities by the interviewers, in that they mainly selected communities they were familiar with.

Furthermore, due to limitations of the dataset, child deaths were measured for the prior year instead of the prior five years; a proxy indicator was utilized to quantify malnutrition; and one indicator of the MPI, house flooring, was excluded. These modifications enabled the authors to calculate multidimensional poverty, but the computed rates might not be an exact representation of the official MPI. Moreover, we estimated the minimum food costs based on the adjusted findings of the study by Khodadad-Kashi and Heidari (2009) with inflation rates. Although this adjustment enabled us to calculate malnutrition among the surveyed households, adjusted costs with inflation rates might not be exactly representative of minimum food costs in 2011.

Conclusion and Implications

In the absence of a prior published study on Afghan refugees' poverty and potential deprivation in Iran, this study provides a baseline for future research and some basic information for policy makers and service providers. Knowledge regarding Afghan refugees' poverty rates can help social workers, who are front-line service providers for refugees, to advocate properly and mobilize required support for better service provision for this group. Moreover, findings in this study in addition to future research on refugees' welfare and poverty could be influential for social workers involved in advocacy and policy making. Such data can help plan short-term and long-term poverty reduction strategies. For instance, in case of lack of education and skills, long-term planning could influence human

capital, or in case of malnutrition among children, food assistance programs in schools or communities can prevent future health problems.

Additional studies, specifically longitudinal research, are needed; meanwhile, our findings demonstrate high rates of poverty among Afghan refugees in Iran. The income poverty rates show a need for further attention to Afghans' self-sufficiency and livelihood opportunities in Iran. Furthermore, high rates of deprivation in educational attainment indicate a need for awareness-raising on the importance of education among Afghans and call for further attention to structural barriers in access to education for this group. For this study, we calculated the malnutrition through a proxy indicator, but our findings demonstrate a need for further investigation in this field. Social workers can contribute to the body of literature in this field by data collection and more importantly through field-level research with Afghan refugees. They can also promote education among their Afghan refugee clients and advocate for refugees' access to livelihood opportunities, education, and health in Iran.

Findings in this study highlight higher rates of poverty and deprivations among female headed households, calling for further attention to this group. Female-headed households constitute a small percentage of our sample, showing that they could be hard to reach. Both aspects, vulnerability and being hard to reach, should be considered in resource allocation and service provision by social workers. Therefore, priority should be given to female headed households in direct service provision and outreach programs.

Moreover, findings in this study illustrate high rates of poverty and deprivation even among households with an employed head. Social workers should advocate for refugees' rights in the Iranian labor market, specifically for their access to job security and minimum wage. Refugees could secure more sustainable jobs with higher incomes if they are provided free trainings in skills required in the Iranian labor market. A secure job and access to minimum wage could also enhance refugees' access to health and education.

More importantly, our findings highlight some of the shortcomings of monetary poverty assessments in capturing deprivations that Afghan refugee households might experience. Despite income levels higher than the basic needs poverty lines or the absolute poverty line, a considerable number of Afghan refugee households in our sample were not able to fulfill minimum education, nutrition, and standards of living for their members. For instance, undocumented refugees in our sample were less likely than documented refugees to be income poor, but they were experiencing considerably higher rates of multidimensional poverty. Monetary methods could overlook deprivations experienced by the most vulnerable groups, as income and absolute poverty measures failed to capture multiple deprivations of the undocumented Afghans in this study. Considering the popularity of monetary poverty assessment methods, service providers, specifically, social workers, should be more careful in interpreting poverty rates. Lack of poverty based on monetary poverty methods only shows income levels above the set poverty lines and should not be interpreted as lack of deprivations. For deprivation analyses and more comprehensive poverty assessments, service providers should listen to refugees and consider the deprivations identified by their clients, and more comprehensive indices like the MPI should also be utilized.

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Author note: Address correspondence to: Mitra Naseh, M.S., Ph.D. Candidate, School of Social Work, Robert Stempel College of Public Health and Social Work, Florida International University, Miami, FL 33199. Mahma024@fiu.edu