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Factors of Care Poverty

Care poverty is a global plight that disturbs the everyday lives of people with care needs in different parts of the world. But what factors are behind it? Can care poverty be predicted by poverty itself, or is the lack of economic resources just one contributing factor among many others? Do women suffer from care poverty more than men? Is it indeed the very oldest people in society who most often find their care needs unmet?

These questions are interesting in more than just an academic sense. An understanding of the individual and societal factors causing care poverty is prerequisite to developing policies that might address them. If the roots of care poverty remain unknown, measures to eradicate it will be taken at random and most likely prove futile. It is also important to know whether care poverty is associated with the same factors in different social and cultural contexts.

Most studies of unmet needs analyse not just their prevalence, but also their associated or predicting factors. The list of factors examined varies across different studies: basic background variables such as age, gender, and living arrangement are included in almost every study, while some other variables such as region or home ownership are only sometimes included. Not even the key variables of income and health status are

included in every study. This chapter reviews the findings concerning the factors that are included most often, organised into three variable groups: (1) health and functional status (including self-reported health and the number of reported I/ADL limitations); (2) socio-demographic background (including age, gender, marital status, ethnicity, income, education level, home ownership status, and residential area); and (3) the availability of informal and formal care (including the indicators of living arrangements, informal networks, the primary source of care, region, and level of access to formal care).

This chapter sums up existing knowledge for this issue; that is, it outlines the key factors of care poverty based on the available literature. This knowledge is particularly needed to discover who among the older population is currently left without adequate support and thus needs more help. As with Chap. 4, this chapter follows the care poverty framework introduced in Chap. 3. First, it examines the factors of personal care poverty. Then, it reviews the factors connected to practical (and personal-practical) care poverty and, finally, socio-emotional care poverty.

Factors of Personal Care Poverty

Health, age, gender, and living arrangement are among the variables included in the analysis of unmet personal care needs most regularly. Several other aforementioned variables (e.g., region, informal networks) are examined only exceptionally. Furthermore, studies on the factors of personal care poverty are available only from a few countries, which restricts the interpretation of their findings. The number of studies per country is also low, with the exception of the United States.

Looking first at absolute personal care poverty, the most unanimous results concern living arrangement, residential area (i.e., urban vs. rural), and levels of education and income (Table 5.1). Eight out of nine analyses found a significant association between living alone and being without any formal or informal support while having an ADL-based need. On the contrary, none of the three studies looking at residential area identified it as having a significant association to care poverty. As well, only Zhu and Österle (2017) reported income and educational level to be

Table 5.1 Factors of absolute personal care poverty

| Country | Study | Correlation or regression analysis | IIADL limitations | | | | | | | Primary Access source to formal care (no) | | | | |
|----------|---------------------------|------------------------------------|-------------------|-------------|------------------|------------------------------|----------------------|------------------|---------------------------|---|-------------------------|--------------------------|----------------------------|----------------------------|
| | | | Health (poorer) | Age (older) | Gender (female) | Marital status (not married) | Ethnicity (minority) | Income (lower) | Educational level (lower) | | Home ownership (rented) | Residential area (rural) | Living arrangement (alone) | Informal networks (weaker) |
| US | Tennstedt et al. (1994) | Regr | NS | | | | | | | | | NS | NS | |
| US | LaPlante et al. (2004) | Regr | SIG | NS | | | NS | | NS | | | SIG | | |
| US | Sands et al. (2006) | Corr | | NS | NS | | SIG ^a | | NS | | | SIG | | SIG |
| Spain | Tomás Aznar et al. (2002) | Corr | NS | NS | SIG ^b | | | | NS | | | SIG ^b | | |
| Spain | Tomás Aznar et al. (2002) | Regr | NS | NS | SIG ^b | | | | NS | | | SIG ^b | | |
| India | Ashok-kumar et al. (2012) | Corr | SIG | SIG | NS | SIG | | | NS | | | SIG | NS | NS |
| Malaysia | Momtaz et al. (2012) | Corr | SIG | SIG | NS | SIG ^b | NS | SIG ^b | NS | | | NS | NS | |

(continued)

Table 5.1 (continued)

| Country | Study | Correlation or regression analysis | Health (poorer) | //ADL limitations (more) | Age (older) | Gender (female) | Marital status (not married) | Ethnicity (minority) | Income (lower) | Education (lower) | Home ownership (rented) | Residential area (rural) | Living arrangement (alone) | Informal networks (weaker) | Primary source to care (formal) | Access to care (no) |
|--------------------------|-------------------------|------------------------------------|------------------|--------------------------|------------------|------------------|------------------------------|----------------------|------------------|-------------------|-------------------------|--------------------------|----------------------------|----------------------------|---------------------------------|---------------------|
| Malaysia | Momtaz et al. (2012) | Regr | SIG | NS | NS | SIG ^b | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| UK | Dunatchik et al. (2016) | Regr | NS | SIG ^c | SIG ^c | NS | NS | NS | NS | NS | NS | SIG | SIG | NS | NS | NS |
| UK | Vlachantoni (2019) | Corr | SIG ^d | NS | NS ^d | NS ^d | SIG ^d | NS ^d | NS ^d | SIG ^d | SIG ^d | SIG ^d | SIG ^d | SIG ^d | SIG ^d | SIG ^d |
| UK | Vlachantoni (2019) | Regr | SIG ^c | SIG ^c | SIG ^c | SIG ^c | SIG | NS | NS | SIG ^c | SIG ^c | SIG | SIG | SIG | SIG | SIG |
| China | Zhu and Österle (2017) | Regr | NS | NS | NS | NS | NS | SIG ^c | SIG ^c | SIG ^c | NS | NS | SIG | SIG | NS | NS |
| Total^e | | | SIG/NS | SIG | NS | SIG/NS | SIG/NS | SIG/NS | NS | NS | SIG/NS | NS | SIG | NS | NS | SIG/NS |

SIG significant association, NS no significant association

^aSignificant association for Asian, but not for Black or Hispanic minorities

^bSignificant association only for women who live alone

^cSignificant association, but in opposite direction (Zhu & Österle, 2017, observe the highest likelihoods among those with the highest levels of income and, concerning education, among those with either primary school or high/vocational school education)

^dIn comparison to the whole sample (including those with no care needs)

^eSIG: Most analyses show a significant association. SIG/NS: Around half of the analyses show a significant association. NS: Most analyses show no significant association

connected to unmet personal care needs, and furthermore, in their study it was actually people with high income and education who were at increased risk of unmet needs.

Three out of four analyses showed the number of I/ADL limitations associated with absolute personal care poverty. In terms of age, the clear majority of studies did not find a significant association, and in two of the three studies that identified age as a factor, it was actually younger age groups that had a higher level of unmet needs. For self-reported health, gender, marital status, ethnicity, home ownership, and access to formal care, results were mixed as only around a half of the studies observed a connection. Nearly all of the rather few analyses that included informal networks or the primary source of care found no association to unmet ADL-based needs. None of the studies examined variation across different parts of the country.

Somewhat more studies address the factors of relative personal care poverty (Table 5.2). Here, a majority find that five factors have a significant relation to care poverty. The most undisputed case is the number of functional limitations, as almost all studies identify a significant association. Although 4 analyses failed to show that living alone increases the likelihood of relative personal care poverty, as many as 11 studies did prove the connection. Residential area was actively examined, as well, and six out of eight analyses confirmed an association (though in one case, it was urban rather than rural areas that were more prone to care poverty). Five analyses connected poor health in older people to increased care poverty, while one linked care poverty to good health in old age. This time, the majority of studies also showed a significant association between care poverty and low levels of income. Researchers were more divided on the importance of informal networks, the primary source of care, region, and access to formal care. Age, gender, marital status, ethnicity, education, and home ownership were mostly found not to be significantly related to relative personal care poverty.

If we compare the results for absolute and relative personal care poverty, two variables attract the eye. While income and residential area have no relation with absolute care poverty, they are significantly associated with relative personal care poverty. When older people whose support is inadequate are included alongside those who lack every kind of support,

Table 5.2 Factors of relative personal care poverty

| Country | Study | Correlation or regression analysis | Health (poorer) | I/ADL limitations (more) | Age (older) | Gender (female) | Marital status (not married) | Ethnicity (minority) | Income (lower) | Education (lower) | Home ownership (rented) | Rural area (rural) | Living arrangement (alone) | Informal networks (weaker) | Primary source of care (informal) | Region | Access to formal care (no) |
|---------|--|------------------------------------|-----------------|--------------------------|-------------|-----------------------|------------------------------|----------------------|----------------|-------------------|-------------------------|--------------------|----------------------------|----------------------------|-----------------------------------|--------|----------------------------|
| US | Allen and Mor (1997) | Regr | SIG | SIG | NS | NS | NS | NS | NS | NS | NS | NS | NS | SIG | | | |
| US | Desai et al. (2001) | Corr | SIG | SIG | NS | SIG | NS | SIG | SIG | SIG | SIG | SIG | SIG | | | | |
| US | Desai et al. (2001) | Regr | SIG | SIG | | | | SIG | | | | | | | | | |
| US | Kennedy (2001) | Regr | SIG | SIG | NS | NS | SIG | NS | SIG | SIG | SIG | SIG | SIG | | SIG | | |
| US | Newcomer et al. (2005) | Regr | SIG | SIG | NS | NS | SIG | NS | SIG | NS | NS | SIG ^a | SIG | NS | SIG | | NS |
| US | Li (2006) | Regr | SIG | SIG | NS | NS | NS | NS | NS | NS | NS | NS | SIG | | NS | | SIG |
| Spain | Otero et al. (2003) | Corr | NS | NS | NS | NS | NS | SIG | NS | NS | NS | NS | SIG | | NS | | NS |
| Spain | Otero et al. (2003) | Regr | NS | NS | NS | NS | NS | SIG | NS | NS | NS | NS | SIG | | SIG | | |
| Spain | Rogero-García and Ahmed-Mohamed (2014) | Corr | SIG | SIG | NS | SIG | SIG | SIG | SIG | SIG | SIG ^{b,c} | SIG | SIG | | SIG | | |
| Spain | Rogero-García and Ahmed-Mohamed (2014) | Regr | SIG | SIG | SIG | SIG | SIG | SIG | NS | NS | SIG ^c | SIG | SIG | | SIG ^d | | |
| China | Gu and Vlosky (2008) | Regr | NS | NS | NS | NS | NS | SIG | NS | NS | SIG | SIG | SIG | | SIG | | SIG |
| China | Peng et al. (2015) | Regr | SIG | SIG | NS | SIG/NS ^{b,e} | NS | SIG | NS | NS | SIG | SIG | SIG | | SIG/NS ^e | | SIG/NS ^e |

| | | | | | | | | | | |
|--------------|----------------------------|------|------------------|-------------------------|---------------------------|-----------|------------|-----------|-------------------------|---------------|
| China | Zhu (2015) | Regr | SIG | SIG/ NS ^f | SIG/ NS ^{b,e} | NS | SIG | NS | SIG/NS ^f | |
| Taiwan | Liu et al. (2012) | Regr | SIG ^b | SIG ^b | | SIG | | SIG | SIG NS | |
| UK | Brimblecombe et al. (2017) | Corr | | SIG | NS | NS | | | | |
| UK | Brimblecombe et al. (2017) | Regr | | SIG/ NS ^g | NS | | | | | |
| Finland | Kröger et al. (2019) | Corr | SIG | NS | NS | NS | NS | NS | NS | |
| Finland | Kröger et al. (2019) | Regr | NS | NS | NS | NS | SIG | NS | SIG/ NS ^b | |
| Total | | | SIG | SIG | NS | NS | SIG | NS | SIG/NS | SIG/NS |

SIG significant association, NS no significant association

^aUnmet needs more likely in non-metropolitan areas

^bSignificant association, but in opposite direction

^cAccording to population size of municipality

^dThe order of alternatives from highest to lowest odds was mix of formal, informal, and private care; formal care; mix of formal and informal care; mix of informal and private care; informal care; private care

^eSignificant association in rural but not urban areas

^fSignificant association in urban but not rural areas

^gDifferent results for self-reporting and proxy-reporting

^hNo statistical difference between the two cities, but unmet needs more common among those living outside city centres

ⁱSIG: Most analyses show a significant association. SIG/NS: Around half of the analyses show a significant association. NS: Most analyses show no significant association

living in a rural area and having low levels of income become a risk for care poverty. Health status, too, showed a significant association to relative care poverty. On the other hand, gender, marital status, ethnicity, and home ownership are clearly not predictive of relative care poverty, but when it comes to these factors and absolute care poverty, researchers are divided. For the factors of informal networks, and primary source of care, the results are more mixed in terms of relative care poverty.

Factors of Practical Care Poverty

When turning to look at IADL-based needs, the most striking observation is how few studies have examined the factors of unmet practical care needs. Only five studies were located; two use the absolute while three use the relative approach. Hence, the findings of all the available studies are presented in only one table (Table 5.3).

This time, there is no hesitation about whether a low level of income is a significant factor of unmet needs: all available analyses confirm the connection, although none use the absolute approach. The only other factors proven to have a significant relation to practical care poverty by the majority of studies are health status and number of IADL limitations (the latter analysed by only one study). Still, some of these studies used varying measurements, and one shows those in good health as more likely to have unmet needs. Conversely, several variables are found to not explain practical care poverty: gender, ethnicity, education, home ownership, residential area, and region (though for four of these variables, evidence is available from a single study only). Results are mixed for age, marital status, living arrangement, informal networks, and primary source of care.

When comparing the results for practical care poverty to those for personal care poverty, some dissimilarities emerge. Living alone seems to have a stronger connection with personal care poverty than with practical care poverty. In both domains, income level can explain relative care poverty but not necessarily absolute care poverty. Meanwhile, education does not explain either kind of unmet need. However, the lack of studies restricts the possibilities to draw conclusions.

Table 5.3 Factors of practical care poverty

| Measurement of care poverty | Country | Study | Correlation or regression analysis | | | | IADL limitations | Age (older) | Gender (female) | Marital status (not married) | Ethnicity (minority) | Income (poorer) | Education (lower) | Home ownership (rented) | Residential area (rural) | Living arrangement (alone) | Informal networks (weaker) | Primary source of care (informal) | Region |
|-----------------------------|---------|-------------------------|------------------------------------|---------------------|---------------------|------------------|---------------------|------------------|------------------|------------------------------|----------------------|---------------------|---------------------|-------------------------|--------------------------|----------------------------|----------------------------|-----------------------------------|------------------|
| | | | Health (poorer) | Regression | Age (older) | Gender (female) | | | | | | | | | | | | | |
| Absolute | US | Tennstedt et al. (1994) | Regr | | | | | | | | | | | | | | | SIG | SIG |
| Absolute | UK | Vlachantoni (2019) | Corr | SIG ^b | NS ^b | SIG ^b | SIG ^b | SIG ^b | SIG ^b | | | NS ^b | NS ^b | | SIG ^b | | | | SIG ^b |
| Absolute | UK | Vlachantoni (2019) | Regr | SIG ^a | SIG ^a | SIG ^a | SIG ^a | SIG ^a | SIG ^a | | | NS | NS | | NS | | | | NS |
| Relative | US | Allen and Mor (1997) | Regr | | SIG | NS | NS | NS | NS | NS | SIG | NS | NS | | NS | | | | NS |
| Relative | Spain | Otero et al. (2003) | Corr | SIG/NS ^c | NS | SIG | SIG | SIG | SIG | SIG | SIG | SIG/NS ^c | SIG/NS ^c | | SIG/NS ^c | | | | NS |
| Relative | Spain | Otero et al. (2003) | Regr | NS | SIG/NS ^c | NS | SIG/NS ^c | NS | SIG | SIG | SIG | SIG/NS ^c | SIG/NS ^c | | NS | | | | NS |

(continued)

Table 5.3 (continued)

| Measurement of care poverty | Country Study | Correlation or regression analysis | Health (poorer) | IADL limitations (more) | Age (older) | Gender (female) | Marital status (not married) | Ethnicity (minority) | Income (poorer) | Education (lower) | Home ownership (rented) | Residential area (rural) | Living arrangement (alone) | Informal networks (weaker) | Primary source of care (informal) | Region |
|-----------------------------|---------------|------------------------------------|-----------------|-------------------------|---------------|-----------------|------------------------------|----------------------|-----------------|-------------------|-------------------------|--------------------------|----------------------------|----------------------------|-----------------------------------|-----------|
| | | | | | | | | | | | | | | | | |
| Relative | Finland | Kröger et al. (2019) | SIG | SIG | SIG | NS | SIG/NS | SIG | SIG | NS | NS | NS | SIG | SIG/NS | SIG/NS | NS |
| Relative | Finland | Kröger et al. (2019) | SIG | SIG | SIG | NS | SIG/NS | SIG | NS | NS | NS | NS | SIG | SIG/NS | SIG/NS | NS |
| Total^f | | | SIG | SIG | SIG/NS | NS | SIG/NS | NS | SIG | NS | NS | NS | SIG/NS | SIG/NS | SIG/NS | NS |

SIG significant association, *NS* no significant association.

^aSignificant association, but in the opposite direction

^bIn comparison to the whole sample (including those with no care needs)

^cSignificant association for ‘weekly needs’, but not ‘monthly needs’

^d*SIG*: Most analyses show a significant association. *SIG/NS*: Around half of the analyses show a significant association. *NS*: Most analyses show no significant association

Factors of Personal-Practical Care Poverty

As seen in Chap. 4, many studies analyse unmet care needs without making a clear distinction between ADL- and IADL-based needs. Among them, the number of studies using the absolute approach is rather close to those using the relative approach. Within research using the absolute approach, three studies analysed factors of unmet needs in two different countries.

In most studies, five variables are proven significant for absolute personal-practical care poverty: health, number of functional limitations, marital status, living arrangement, and informal networks (Table 5.4). However, the evidence is not always very strong. Health was included only twice and informal networks four times (and in the latter case, one of the studies connected strong networks, not weak ones, with unmet needs). In the case of functional limitations, three studies report different results for ADL limitations and IADL limitations. Once again, care poverty was not explained by gender, education level, or home ownership. This time income proved insignificant, as well. The situation was less clear for age. Other unclear cases involved the variables of ethnicity, residential area, region, and access to formal care.

In the case of relative personal-practical care poverty, for the first time, a clear majority of the variables prove to be significant factors of a lack of adequate care (Table 5.5). Only education and home ownership (with the latter analysed in just one study) do clearly not associate with unmet needs. For marital status, ethnicity, informal networks, and access to formal care, the evidence is mixed. According to most findings, all other factors are associated with unmet needs. So this time, there are as many as nine significant factors of care poverty; gender, age, primary source of care, and region are included in this list for the first time.

Evidence is strongest for functional limitations and income in that each had only one analysis fail to confirm a connection to unmet needs. The same goes to region and health status, but they were included in fewer studies. Primary source of care was connected to unmet needs, but it was those with a mix of formal and informal care, not those who had only informal carers, who most typically were in care poverty. Living alone was once again identified as a factor of unmet needs. Gender and

Table 5.4 Factors of absolute personal-practical care poverty

| Country | Study | Correlation or regression analysis | Health (poorer) | I/ADL limitations (more) | Age (older) | Gender (female) | Marital status (not married) | Ethnicity (minority) | Income (poorer) | Education (lower) | Home ownership (rented) | Residential area (rural) | Living arrangement (alone) | Informal networks (weaker) | Region | Access to formal care (no) |
|--------------------|--------------------------------------|------------------------------------|---------------------|--------------------------|------------------|------------------|------------------------------|----------------------|-----------------|-------------------|-------------------------|--------------------------|----------------------------|----------------------------|--------|----------------------------|
| US and UK | Davey and Patsios (1999) | Regr | SIG | SIG | NS | NS | NS | NS | NS | NS | NS | NS | SIG | SIG | | |
| US | Lima and Allen (2001) ^b | Regr | SIG/NS ^b | SIG/NS ^b | NS | NS | SIG | SIG/NS ^c | NS | NS | NS | SIG ^d | SIG ^d | | | SIG |
| US | Gibson and Verma (2006) ^a | Corr | SIG ^e | SIG ^e | SIG ^e | NS | SIG | SIG | SIG | SIG ^e | SIG | SIG | SIG | SIG | | NS |
| US | Gibson and Verma (2006) ^a | Regr | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | SIG | NS | NS | SIG |
| US | Davey et al. (2013) | Corr | SIG | SIG | NS | NS | NS | NS | NS | NS | NS | SIG | SIG | SIG | | |
| US and Sweden | Shea et al. (2003) | Regr | SIG/NS ^b | SIG/NS ^b | SIG ^e | NS | NS | NS | NS | NS | NS | SIG | SIG | | | |
| France and Ireland | Gannon and Davin (2010) | Regr | SIG/NS ^b | SIG/NS ^b | NS | SIG ^e | NS | SIG | SIG | NS | NS | NS | NS | | | |
| India | Ashok-kumar et al. (2012) | Corr | SIG | SIG | SIG | NS | SIG | SIG/NS ^f | NS | NS | NS | SIG | NS | NS | | |
| Slovenia | Hlebec et al. (2016) | Regr | SIG ^g | SIG ^g | SIG | NS | NS | NS | NS | NS | SIG | NS ^h | SIG ^h | SIG ^{h,i} | | |

| | | | | | | | | | | | | | |
|--------------------|------------------------|-------------------|-----|-----|------------------|-----|--------|-----|-----|----|-----|--------|--------|
| China | Zhu and Osterle (2017) | Regr | SIG | SIG | SIG ^e | SIG | NS | SIG | NS | NS | SIG | SIG | |
| China | Hu and Wang (2019) | Regr ^j | NS | SIG | SIG | SIG | NS | SIG | NS | NS | SIG | NS | |
| China | Hu and Wang (2019) | Regr ^k | SIG | SIG | NS | NS | SIG | NS | SIG | NS | SIG | SIG | |
| Total ^l | | | SIG | SIG | SIG/NS | NS | SIG/NS | NS | NS | NS | SIG | SIG/NS | SIG/NS |

SIG significant association, NS no significant association.

^a Compared not to those with needs met, but to those having 'inadequate help' (i.e., those in relative care poverty)

^b Different results for ADLs and IADLs

^c People with unmet needs were more likely to be Black or 'other', but not Hispanic

^d Fewer persons in household

^e Significant association, but in the opposite direction

^f Connection with financial status (fully dependent or not), but not with family income (under or over 4350 Rs per month)

^g GALI (Global Activity Limitation Indicator) limitations

^h Not living with a spouse

ⁱ Three or more persons in household

^j Probit regression

^k Poisson regression

SIG: Most analyses show a significant association. SIG/NS: Around half of the analyses show a significant association. NS: Most analyses show no significant association

Table 5.5 Factors of relative personal-practical care poverty

| Country | Study | Correlation or regression analysis | Correlation or regression analysis | | | | | | | | | | Primary source of care (informal) Region (no) | Access to formal care (no) | | | |
|---------|-------------------------|------------------------------------|------------------------------------|--------------------------|------------------|-----------------|------------------------------|----------------------|-----------------|---------------------|-------------------------|--------------------------|---|----------------------------|----------------------------|----------------------------|------------------|
| | | | Health (poorer) | I/ADL limitations (more) | Age (older) | Gender (female) | Marital status (not married) | Ethnicity (minority) | Income (poorer) | Educational (lower) | Home ownership (rented) | Residential area (rural) | | | Living arrangement (alone) | Informal networks (weaker) | |
| US | Lima and Allen (2001) | Regr | SIG | SIG | SIG ^a | SIG | SIG | SIG | SIG | NS | NS | NS | SIG ^b | SIG | NS | NS | |
| US | Gibson and Verma (2006) | Corr | SIG | SIG | SIG ^a | SIG | SIG | SIG | SIG | SIG | SIG ^a | SIG ^a | SIG | SIG | SIG | SIG | |
| US | Gibson and Verma (2006) | Regr | NS | NS | NS | NS | NS | NS | NS | NS | NS | SIG ^a | SIG | SIG | SIG ^c | SIG | |
| US | Schure et al. (2015) | Regr | NS | SIG ^d | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | SIG ^a | NS | NS |
| Canada | Lévesque et al. (2004) | Corr | SIG | SIG | SIG | SIG | SIG | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Canada | Lévesque et al. (2004) | Regr | SIG | SIG | SIG | SIG | SIG | SIG | SIG | SIG | SIG | SIG | SIG | SIG | SIG | SIG | SIG |
| Canada | Carrière (2006) | Corr | | | | | | | | | | | | | | | SIG ^e |

| | | | | | | | | |
|-------------|--|------|-----|------------------|-----|-----|--------------------|------------------|
| Canada | Busque and Légaré (2012) | Regr | SIG | SIG ^f | NS | NS | NS | SIG ^g |
| France | Davin et al. (2006) | Regr | | SIG ^a | NS | SIG | NS | SIG |
| Spain | Rogero-García and Ahmed-Mohamed (2011) | Corr | SIG | NS | SIG | SIG | SIG ^{a,h} | SIG |
| Spain | Rogero-García and Ahmed-Mohamed (2011) | Regr | SIG | NS | SIG | NS | SIG ^{a,h} | SIG |
| New Zealand | Wilkinson-Meyers et al. (2014) | Regr | SIG | NS ⁱ | SIG | NS | NS | SIG |
| | | | | | | | | NS |
| | | | | | | | | SIG ⁱ |

(continued)

Table 5.5 (continued)

| Country Study | Correlation or regression analysis | | I/ADL limitations | | Age | | Gender (female/married) | | Marital status (not (minority) | | Ethnicity | | Income (poorer) | | Education (lower) | | Home ownership (rented) | | Residential area (rural) | | Living arrangement (alone) | | Informal networks (weaker) | | Primary source of care (informal) | | Access to formal care | |
|--------------------|------------------------------------|-----|-------------------|-----|-----|-----|-------------------------|-----|--------------------------------|--------|-----------|--------|-----------------|-----|-------------------|----|-------------------------|-----|--------------------------|-----|----------------------------|--------|----------------------------|--------|-----------------------------------|-----|-----------------------|--------|
| | SIG | SIG | SIG | SIG | SIG | SIG | SIG | SIG | SIG/NS | SIG/NS | SIG/NS | SIG/NS | SIG | SIG | NS | NS | SIG | SIG | SIG | SIG | SIG/NS | SIG/NS | SIG | SIG | SIG | SIG | SIG/NS | SIG/NS |
| Total ^a | SIG | SIG | SIG | SIG | SIG | SIG | SIG | SIG | SIG/NS | SIG/NS | SIG/NS | SIG/NS | SIG | SIG | NS | NS | SIG | SIG | SIG | SIG | SIG | SIG | SIG/NS | SIG/NS | SIG | SIG | SIG/NS | NS |

SIG significant association, NS no significant association

^a Significant association, but in the opposite direction

^b Fewer persons in household

^c Unmet needs most likely in eastern and southern parts of the country

^d Unmet needs most likely among those who have at least five I/ADL limitations

^f Unmet needs most likely among those receiving a mix of formal and informal care, and less likely among those receiving either formal or informal care

^g Age groups 70–74 and 75–79 had a higher likelihood of unmet needs than groups aged 65–69, 80–84, and 85+

^h Unmet needs most likely in Quebec and British Columbia

ⁱ According to population size of municipality

^j Order of alternatives from highest to lowest odds was mix of formal, informal, and private care; formal care; mix of formal and informal care; mix of informal and private care; informal care; private care

^k Nottingham Everyday Activities of Daily Living (NEADL)

^l SIG: Most analyses show a significant association. SIG/NS: Around half of the analyses show a significant association. NS: Most analyses show no significant association

age were proven, for the very first time, to be significant in most studies; however, the people found most likely to have unmet needs were often not in the oldest age groups. Residential area was a significant factor, as well, but it was urban—not rural—areas that were at higher risk for care poverty.

As already mentioned, the results for absolute and relative personal-practical care poverty are different in some respects. Gender and income that were non-significant for absolute care poverty were significant factors of relative care poverty. As well, a few factors that had mixed results for absolute care poverty (age, residential area, and region) turned out to be significant in the case of relative unmet care needs. There are also a number of similarities. Health status, functional limitations, and living arrangement affected absolute as well as relative personal-practical care poverty. Educational level and home ownership status remained non-significant for both.

If the results for personal-practical care poverty are juxtaposed with those for personal and practical care poverty, demonstrably influential factors are partly the same and partly different. Health and functional limitations are significant in almost all areas. The same goes for living arrangements. Income seems to be associated with relative care poverty more strongly than absolute care poverty across domains. Overall, several socio-demographic variables as well as indicators of the availability of care are connected with personal-practical care poverty, especially when measured using the relative approach. Informal networks, region, and primary source of care all emerge more visibly than before as factors of personal-practical care poverty. The same may be said for marital status and age. Education and home ownership remain non-significant here, and the evidence remains mixed for gender, ethnicity, and access to formal care.

Factors of Socio-emotional Care Poverty

In Chap. 4, rates of socio-emotional care poverty were sought from research literature on loneliness. So, too, are its factors in this chapter. As this literature includes hundreds or possibly thousands of individual

studies, a complete review is beyond the scope of this chapter. Factors associated with loneliness—and thus, socio-emotional care poverty—are identified here based on the five international comparisons of loneliness referred to in Chap. 4. Of these five publications, one (Yang & Victor, 2011) does not analyse factors of loneliness. While the four other studies run multivariate regression analyses for this issue, their findings are reported in slightly different ways: Hansen and Slagsvold (2016), Fokkema et al. (2012), and Vozikaki et al. (2018) report factors at only an international level, while Sundström et al. (2009) report findings at only a national level (Table 5.6). The studies also use somewhat dissimilar sets of independent variables. These sets exclude several of the factors that were included in studies of unmet personal and practical care needs.

Sundström et al. (2009) found that both poor health and living alone explain loneliness most consistently across different countries. For every country subject to study, living arrangement was a factor of loneliness; self-rated health was also significant in all but three nations. On the other hand, age was shown to have a significant association with loneliness in only one country. Likewise, gender was significant in no more than three nations. Level of education was a significant factor in 4 of the 11 countries.

Both using SHARE data, Fokkema et al. (2012) identified more factors of loneliness than Sundström et al. (2009) did: in addition to poor health, they found that age (older), gender (female), marital status (not married), and level of income (lower) all explained the rates of loneliness found in their international data. The number of IADL limitations was significantly linked to loneliness, but the number of ADL limitations was not. Vozikaki et al. (2018) used SHARE data as well, albeit from another wave. They included a mostly different set of independent variables in their analysis. Their findings show that, aside from living alone, marital status and the combined number of ADL/IADL limitations can be significant factors of loneliness. For their part, Hansen and Slagsvold (2016) analysed GGS data to identify health, income level, education, and living arrangement as significant factors of loneliness within the population group aged 60–80 years.

The four studies tested the explanatory power of somewhat different independent variables. Not all of them report non-significant relations, either, and both issues complicate drawing conclusions. Nevertheless, all

Table 5.6 Factors of socio-emotional care poverty

| Study | Country | //ADL | | | Marital | | | Living arrangement (alone) |
|-----------------------------|--------------|-----------------|---------------------|---------------|-----------------|----------------------|----------------|----------------------------|
| | | Health (poorer) | limitations (more) | Age (older) | Gender (female) | status (not married) | Income (lower) | |
| Sundström et al. (2009) | Austria | SIG | | NS | NS | | NS | SIG |
| | Belgium | SIG | | NS | NS | | NS | SIG |
| | Denmark | NS | | NS | NS | | NS | SIG |
| | France | SIG | | NS | SIG | | SIG | SIG |
| | Germany | SIG | | NS | NS | | SIG | SIG |
| | Greece | SIG | | NS | SIG | | NS | SIG |
| | Israel | SIG | | NS | NS | | SIG | SIG |
| | Italy | NS | | NS | NS | | NS | SIG |
| | Netherlands | SIG | | NS | NS | | NS | SIG |
| | Spain | SIG | | NS | SIG | | SIG | SIG |
| | Sweden | NS | | SIG | NS | | NS | SIG |
| 11 countries ^a | SIG | | NS | NS | | NS | SIG | |
| Fokkema et al. (2012) | 14 countries | SIG | SIG/NS ^b | SIG | SIG | SIG | NS | SIG |
| Hansen and Slagsvold (2016) | 11 countries | SIG | | | | SIG | SIG | SIG |
| Vozikaki et al. (2018) | 11 countries | SIG | SIG | SIG/NS | SIG/NS | SIG | SIG/NS | SIG |
| Total^a | | SIG | SIG | SIG/NS | SIG/NS | SIG | SIG/NS | SIG |

Based on loneliness studies

S/G significant association, NS no significant association

^aSIG: Most analyses show a significant association. SIG/NS: Around half of analyses show a significant association. NS: Most analyses show no significant association

^bResults differ for ADLs (NS) and IADLs (SIG)

studies support living arrangements and health as significant factors of loneliness in a rather large number of countries. A low level of income is also an indisputable factor. Being married seems to be a protective factor against loneliness, which is not surprising. The role of a number of functional limitations remains a bit open, and it may be that loneliness is linked to practical care needs more closely than personal care needs. For age, gender, and education level, the verdict is not unanimous, and their impacts vary across countries.

When these results are compared to existing reviews of loneliness studies, the same factors emerge. For example, Routasalo and Pitkälä (2003) observe that population-based studies link loneliness most strongly to age, living alone, a lack of physical function, and poor health. Evidence on gender and marital status was contradictory, while evidence for the impact of income and education remained weak. A more recent review by Cohen-Mansfield et al. (2016) summarised findings from 38 loneliness studies to conclude that the following variables are mostly strongly associated with loneliness of older adults: gender, marital status, age, level of income, level of education, living arrangement, quality of social relationships, self-reported health, and functional status.

Conclusions

When the factors for all domains and measurements of care poverty are gathered together, many similarities emerge (Table 5.7). Most factors seem to explain either (nearly) all of the domains for care poverty or none of them. Those factors with contradictory results are usually found in more than one domain.

The domains of care poverty are explained most consistently by health and functional status. This is not surprising but not self-obvious, either: while the level of care needs is closely connected to health status and functional limitations, the level of unmet needs need not be. When people with long-term care needs have access to necessary support, those with poorer health and more functional limitations need not have a higher likelihood of care poverty than anyone else. But in reality, functional status is significantly connected to all three domains of care poverty, and the results are very similar for health status.

Table 5.7 Factors of care poverty

| | Socio-demographic factors | | | | | | | | | | Availability of informal and formal care | | |
|--|------------------------------|--------------------------|---------------|-----------------|------------------------------|----------------------|----------------|-------------------|-------------------------|--------------------------|--|----------------------------|-----------------------------------|
| | Health and functional status | I/ADL limitations (more) | Age (older) | Gender (female) | Marital status (not married) | Ethnicity (minority) | Income (lower) | Education (lower) | Home ownership (rented) | Residential area (rural) | Living arrangement (alone) | Informal networks (weaker) | Primary source of care (informal) |
| 5.1 Absolute personal care poverty | SIG/NS | SIG | NS | SIG/NS | SIG/NS | SIG/NS | NS | SIG/NS | NS | SIG | NS | NS | SIG |
| 5.2 Relative personal care poverty | SIG | SIG | NS | NS | NS | NS | SIG | NS | SIG | SIG | SIG/NS | SIG/NS | SIG/NS |
| 5.3 Practical care poverty | SIG | SIG | SIG/NS | NS | SIG/NS | NS | SIG | NS | NS | SIG/NS | SIG/NS | SIG/NS | NS |
| 5.4 Absolute personal-practical care poverty | SIG | SIG | SIG/NS | NS | SIG | SIG/NS | NS | NS | SIG/NS | SIG | SIG | SIG | SIG/NS |
| 5.5 Relative personal-practical care poverty | SIG | SIG | SIG | SIG | SIG/NS | SIG/NS | SIG | NS | SIG | SIG | SIG/NS | SIG | SIG/NS |
| 5.6 Socio-emotional care poverty | SIG | SIG | SIG/NS | SIG/NS | SIG | SIG | SIG/NS | SIG | SIG | SIG | SIG | SIG | SIG/NS |
| Total | SIG | SIG | SIG/NS | NS | SIG/NS | NS | SIG | NS | SIG/NS | SIG | SIG/NS | SIG/NS | SIG/NS |

SIG most studies show significant association, SIG/NS around half of the studies show a significant association, NS most studies show no significant association

Despite some variation across socio-demographic factors, they generally prove not to be the strongest factors of care poverty. Nevertheless, income is associated with different domains of care poverty—especially when measured using the relative approach. On the one hand, several studies show a significant association between care poverty and the following factors: age, marital status, and residential area. On the other hand, these same factors are very regularly demonstrated not to predict the level of unmet need. Marital status explains lack of socio-emotional care and absolute personal-practical care, but not relative personal care. Age explains care poverty in terms of relative personal-practical care, but not absolute or relative personal care. Residing in a rural area is significantly connected to care poverty in terms of relative personal and personal-practical care, but not absolute personal care or practical care. The results thus vary not just across domains, but also across absolute and relative measurements within certain domains.

Out of all of the socio-demographic factors, the following generally seem not to predict care poverty: education level, home ownership, ethnicity, and gender. The results for education and home ownership are almost fully consistent in this respect, but gender and ethnicity show somewhat more variation. This is because ethnicity is not a clear factor of any domain and age is only a factor of relative personal-practical care poverty. Chapter 7 will further discuss the connections between socio-demographic factors and care poverty.

Finally, the third group of factors indicating the breadth of informal and formal support show rather contradictory findings. Living arrangement holds explanatory power in almost all domains of care poverty: evidence showing its strength as a key factor of unmet care needs is almost fully consistent. But the findings are considerably less clear for the other care availability factors. They were included in only a few studies and measured rather variably, and they received variable results. The existence of informal networks seems to explain care poverty in terms of absolute personal-practical care poverty, but not absolute personal care. The same goes for the primary source of care. Region is associated with care poverty in terms of relative personal-practical care, but not practical care. Results concerning access to formal care are mixed in all domains. We will come back to this factor in Chap. 8, which looks at care poverty across different long-term care systems.

Almost all publications concerning unmet needs include a literature review, listing factors that earlier research has identified as factors of unmet care needs. For example, Li (2006, 169–170) writes:

Empirical evidence has shown that unmet needs are determined by a combination of demographic, socio-economic, functional and physical health, health insurance coverage, support network, and cultural factors. Researchers have found that older adults who are older, female, impoverished, and of minority status are at the particular risk of not having their service needs met. Researchers also have found that clients' functional and physical health factors are consistently related to their unmet needs for home care services.

Usually, these reviews cover literature that is limited and mostly American. This chapter has provided a broader review of the research carried out in different parts of the world. It has aimed to compare like with like—to organise studies according to the domains of need they examine and the approach to measurement they use. Nevertheless, the conclusions of this chapter are still very much in line with those of Li (2006) and other earlier studies. The factors proven to influence the likelihood of unmet needs most universally are neither surprising nor new: health status, functional status, living arrangement, and income level. Significant factors are mostly the same across different care poverty domains, as well as for both absolute and relative care poverty. Even different national contexts do not introduce radical differences to these results.

Evidence shows that a low level of income is a significant factor, which means that poverty and care poverty are interlinked. The strength of this connection varies, however; for all domains, it is absent or unclear for absolute care poverty but substantial for relative care poverty. People with a low level of income are thus at particular risk for relative unmet care needs. Still, income is not the only or even the strongest factor of care poverty. Self-reported poor health, living alone, and the number of functional limitations are the most undisputed factors across different domains of care poverty. In terms of the three different kinds of care needs, people with these conditions consistently make up the primary risk groups for receiving insufficient support or no assistance at all.

Education level and home ownership were systematically shown not to be associated with care poverty, which was unanticipated. Even more

unexpectedly, gender and ethnicity proved insignificant in most studies. Some studies even show that men are more likely to have unmet needs than women. When other variables (especially health and functional status) are controlled, ethnicity and gender do not independently influence care poverty. While older women still make up the majority of people with unmet needs and while care poverty is widespread among racial and ethnic minorities, it is other factors—living alone, poor health, a high number of I/ADL limitations, and low-income—that statistically explain their care poverty.

Other variables included in the review proved to be more context dependent. The country, specific sample, care poverty domain, and measurement approach affected the explanatory strength of age, marital status, residential area, informal networks, primary source of care, region, and access to formal care. In some cases, these factors were significant. In other cases, they were not.

All in all, the findings show that care poverty is due to several factors. A low level of income is among the key factors. However, it is joined by health and functional status as well as living arrangement. Older people with major care needs who live alone are at highest risk for care poverty. When they also have a low income level, the hazards of unmet care needs are exacerbated.

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