Suspected intellectual disability: a survey study examining the prevalence of suspected intellectual disability and the care needs and service use of homeless people in Nijmegen, a small town in the Netherlands

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ABSTRACT

Introduction: The prevalence of suspected intellectual disability (SID) in adult homeless people has recently been estimated at 29.5%, compared to 0.7% of overall Dutch population. Awareness of SID is important for professionals in order to adapt their working methods to the needs and possibilities of this group.

Objectives: to determine SID in the adult homeless population in a smaller town in the eastern Netherlands, investigating the care needs and service use and the association between SID and the care needs and service use.

Methods:

A survey was carried out among a representative sample of homeless people using four shelters in Nijmegen. The hayes ability screening index was used to determine a SID. Furthermore the questionnaire contained questions about education level, ethnicity, care needs and service use. Descriptive analyses and χ^2 tests were performed to determine the prevalence of SID and to analyse relationships between SID and experienced health and received care.

Results:

In this study 86 homeless adults were included. The prevalence of SID was 31.4%. Unmet needs for medical care was reported by 11,6% (for physical and psychological care and alcohol addiction) – 30,2% (for dental care). Participants with SID more often received treatment for addiction (p=0.047).The car needs weren't significantly different within the two groups.

Discussion and conclusion:

The prevalence of SID in homeless people in Nijmegen is 31.4%, similar to other homeless groups but high compared to general population. Participants with SID did not report higher care needs, which can suggest that it is difficult to articulate what help they need and probably receive less help than needed. Professionals should be aware of the high prevalence of SID and the unmet needs for medical care. They need to work outreaching and adapt the way they communicate and give guidance to this specific population.

INTRODUCTION:

Homelessness is an important public health problem. Homeless people are a vulnerable group. They have more physical as well as mental health problems related to their precarious social situation. They often avoid the health care system, have unmet needs, or do not know how to get the help they need.(1)There is a higher mortality and lower life expectancy among homeless people.(2) Studies have shown that psychological problems and substance abuse are more common within this subgroup. The systematic review by Fazel (3) shows that homeless people have a higher prevalence of major depression, psychotic illness and alcohol and drug addiction. Homeless people participating in the CODA G4 study reported an average of 3.4 physical complaints; over 40% reported complaints of muscles and/or bones, 40% dental problems, 39% respiratory tract problems and almost 25% problems with their feet.(4)

Recent research in The Hague, Rotterdam, Utrecht and Amsterdam concluded that 29.5% of the adult homeless population shows signs of an intellectual disability (ID) (IQ<70), compared to 0.7% of the overall adult Dutch population.(5) People with an ID have difficulty with communication, self-care, living independently, work and social and/or relational activities.(6) In studies conducted with (non-homeless) people with ID it was found that there is a higher risk of a substance use disorder (7)and a higher prevalence of mental health problems.(8, 9) It is important to recognize an ID in homeless people, in order to adjust the help and guidance to their needs.

It is unknown if among homeless populations in average sized cities, like Nijmegen, there is also a high prevalence of ID. If this prevalence is high it will have consequences for the working methods of general practitioners (GP) in Nijmegen.

This study is a replica of the study: “Intellectual Disability among Dutch Homeless People: Prevalence and Related Psychosocial Problems” by van Straaten et. al.(5)

The aim of this study is to examine the prevalence of suspected intellectual disability (SID) among homeless people in Nijmegen. It is hypothesized that the prevalence of ID in this group will be equally highas found in other studies conducted with homeless people and therefore higher than ID in overall Dutch population.
The second aim is to explore how homeless people with SID and without SID experience their health and if they receive the help they need.
Lastly we will explore the relationship between an SID and the experienced health and received care.

Research questions:
1. What is the prevalence of a suspected intellectual disability among adult homeless people in Nijmegen?
2. How do homeless people experience their health and the help they receive by health care workers in Nijmegen?
3. Do people with SID experience their health and the help they receive differently than people without SID?

METHODS:

Setting

Nijmegen is an average sized city of the Netherlands with a population in 2016 of 164.223 people. Here in 2010 Praktijk Buitenzorg was founded to provide primary care to homeless people and other socially vulnerable people who are not registered in regular General practice. In praktijk buitenzorg, general practitioners and a mental health nurse provide care and social support, often in collaboration with police, other social workers and mental healthcare.(10) Free consultation hours are held every Monday and Wednesday at the shelters for homeless people.

Definitions

Intellectual disability: a person with an IQ < 70. (6)

Literal homelessness: over the last 30 days the participant has slept for at least one night in a homeless shelter, at a family member or friend's house without the possibility of staying there for a long time, or in the streets.

Study design and participants

A survey study was performed among a sample of homeless people in Nijmegen using all four homeless shelters in Nijmegen: "Hulsen", "Nunn", "Kasteel" and "Lutherse Kerk" (see box 1).

- "Hulsen" (capacity 16 men, 2 women) is a night shelter where homeless people can spend the night, eat dinner and shower. People receive guidance for any problem they might have (finding a place to live, medical care, addiction).
- "Nunn" (capacity 24 men) is a night shelter organized by homeless men for homeless men. There is a selection procedure, where present residents chose the new residents. Social workers help with problems among finding a house, money, etc.
- "Kasteel" (capacity 20 people) is a place where homeless people can stay during the day, drink coffee and do small chores. In general the population contains of people who sleep at "Hulsen" or "MFC", which is a temporary home for homeless people with addiction problems.
- "Lutherse Kerk" (capacity 40 people) is a place where homeless people can go on Mondays and Thursdays in the morning to drink coffee, receive medical attention and help from social workers. This population normally contains the biggest group homeless people who don't go to any other shelter and don't receive any financial aid. This is the most vulnerable and troubled group.

Box 1 Information about the four homeless shelters in Nijmegen

The exact number of homeless people in Nijmegen is not known. The four homeless shelters in Nijmegen are visited by an estimated unique 100 homeless people in total each week. The homeless population is dynamic and changes over time.

<u>Study sample</u>

Accepting a power of 85% for reliably determining SID, 93 homeless people should be included in this study. The total capacity of the four shelters is 102. The sample size was calculated using 90% of the total capacity at the shelters. Therefore at “Hulsen” (capacity of 18) 16 people should participate in this study and included, at “Kasteel” (capacity of 20) 18, at “Nunn” (capacity of 24) 21 and at “Lutherse Kerk” (capacity of 40) 36. A representative sample of the homeless population in Nijmegen therefore would exist of 91 people.(11) Homeless people were randomnly approached and included if they were adults who met the criteria of literal homelessness. They were given information about the study and asked to sign the informed consent form.

Structured interviews were held by the same interviewer (NR) in the shelters in November 2015. The interview contained questions about education level, ethnicity, car needs, service use and the hayes ability screening index (HASI). The interview took 30 minutes. Participants received 5 euro for their participation.

The interview and the HASI questionnaire were explained in person. Questions with various answer categories were accompanied by an answer card with the possible answers listed.

Measurements

Demographic characteristics:

Gender, age, ethnicity and education level were assessed using structured questions. Age was calculated by using the date of the interview and the date of birth. Ethnicitywas defined as native Dutch and not native Dutch, using the country of birth of the participant and the country of birth of both parents of the participant. Native Dutch was defined as being born in the Netherlands and with both parents being born in the Netherlands. Educational level was subdivided in “lowest”, “low”, “intermediate” and “high”. Lowest when the participant only finished primary education, low if the participant completed lower technical education and/or pre-vocational education, intermediate when the participant completed secondary vocational or pre-university education and high when the participant completed the university and/or higher professional education.(5)

Intellectual disability:

The Hayes Ability Screening Index (HASI) was used to determine a suspected intellectual disability. The HASI is a short screening index of intellectual disabilities. It gives an indication of whether a person has an ID (IQ<70) and whether further diagnostics are recommended. The HASI consists of four types of subtests: background questions (learning abilities), a spelling exercise, a puzzle (numbers and letters) and drawing a clock. The cut-off score is 85 to determine SID, with a sensitivity of 82.4% and a specificity of 71.6%. If the score is below 85 an ID is suspected, if the score is 85 or higher there no ID is suspected.(12) The Dutch version of the HASI, translated by the developers of the HASI, was used in this study.

Subjective quality of life and perceived health:

The subjective quality of life was assessed using the question “are you satisfied with your life in general?” and then categorized in bad, average and good using a 7 point scale. 1-2 was defined as bad,

3, 4 and 5 as average and 6 and 7 as good. The perceived health was assessed using the question "Are you satisfied with your health in general?" and also categorized in bad, average and good using the same scale as mentioned above. The experienced quality of life and the experienced health was assessed using a 7 point scale and then categorized in 3 categories: bad, average and good.

Care needs:

The care needs were assessed for four different domains, namely medical care, psychological care, addiction care and dental care. Participants were asked if they needed help in these areas and if they received help. Therefore four different outcomes were possible:

1. Needing help and receiving help (met needs)
2. Needing help, but not receiving help (unmet needs)
3. Not needing help, but receiving help (unrequested interference)
4. Not needing help and not receiving help (no needs)

Correlations were calculated between SID and the care needs.

Service use

Participants were asked if they received any guidance domains: medical care (involving general practitioner, hospital and dental care), psychological care, addiction care and social care, during the last year and/or during the last six months. Correlations were calculated between SID and the use of care.

Statistical analysis

Statistical analysis was performed using SPSS 22.0. Descriptive analysis was performed and groups were compared using an unpaired t test for continuous variables and χ^2 test for categorical data. Significance was established with values of $p < 0.05$.

Ethic statement

This study is a replica of the study: "Intellectual Disability among Dutch Homeless People: Prevalence and Related Psychosocial Problems" by van Straaten et. al.(5) in which ethical approval was not necessary according to the Medical Review Ethics Committee region Arnhem-Nijmegen (Registration number 2010/321). Therefore in this study ethical approval wass not necessary either.

RESULTS:

A total of 99 adult homeless people were approached. 13 of them refused to participate, reasons being fear for stigmatization (6x), lack of interest (6x) and lack of time (1x). The sample size target was fully met at “Hulsen” and “Lutherse Kerk” and for 78% at “Kasteel” and 86% at “Nunn”.

Characteristics of the study population

	Total (N=86)
Mean age in years	41.2 (18.0-79.9)
Gender	
- **Male**	90%
- **Female**	10%
Ethnicity	
- **Native Dutch**	58%
- **Not native Dutch**	42%
Location	
- **Kasteel**	16%
- **Hulsen**	19%
- **Kerk**	44%
- **Nunn**	21%
Education	
- **Lowest**	30%
- **Low**	14%
- **Intermediate**	42%
- **High**	14%

Table 1 Characteristics of the study population. N=86

The majority of participants were male (male-to-female ratio 9.75:1). Most participants were native Dutch. The majority of participants received intermediate education, followed by lowest education, meaning participants finished primary education at the most. Regarding the different locations, participants received the highest education at Nunn (50.0% intermediate and 33.3% high) and Hulsen (56.3% intermediate and 6.3% high). Participants at Lutherse kerk (21.4% intermediate and 28.6% high) and Kasteel (39.5% intermediate and 2.6% high) were less educated.

Suspected intellectual disability

SID was found in 31.4% of the participants (n=27). Between the group with SID and without SID there were no significant differences in age and ethnicity or shelter. There is, however, regarding SID a significant difference for the level of education (p=0.019), being the percentage of SID highest within participants with the lowest education and lowest within participants with the highest education.

	Suspected ID (n=27)	No suspected ID (n=59)	p-value

Mean age in years (sd)	40,8 (10,4)	41,4 (14,2)	T=-0.227, p=0.84
Gender			χ^2=0.153 P=0.696
- **Male**	30.8%	69.2%	
- **Female**	37.5%	62.5%	
Ethnicity			χ^2=1.1614, p=0.204
- **Native Dutch**	26.0%	74.0%	
- **Not native Dutch**	38.9%	61.1%	
Location			χ^2=1.942, p=0.585
- **Kasteel**	35.7%	64.3%	
- **Hulsen**	18.8%	81.3%	
- **Kerk**	36.8%	63.2%	
- **Nunn**	27.8%	72.2%	
Education			χ^2=9.959, p=0.019
- **Lowest**	53.8%	46.2%	
- **Low**	25.0%	75.0%	
- **Intermediate**	25.0%	75.0%	
- **High**	8.3%	91.7%	
Total	31.4%	68.6%	

Table 2 Characteristics of the study population divided in participants with a suspected ID and participants without a suspected ID. With p-value < 0.05 significant difference. ID = intellectual disability, sd = standard deviation. N=86

Quality of life and perceived health:

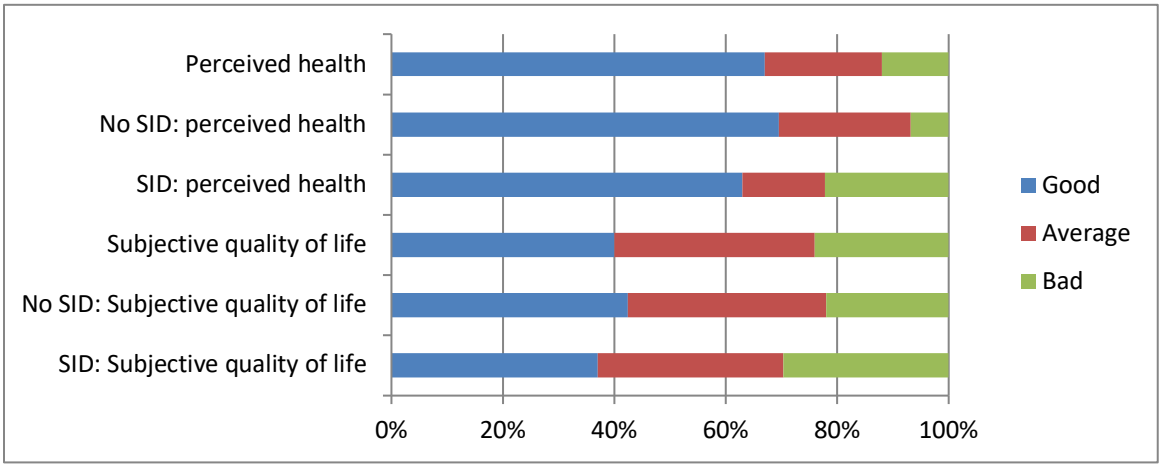

Figure 1 Health and life satisfaction. No SID: No suspected intellectual disability. SID: Suspected intellectual disability. N=86.

The majority of participants (67%) reported a 6 or 7 for perceived health on a scale of 1-7 (1=terrible and 7=fine). The mean percieved health was 4.9 (1-7). Quality of life (QoL) was more divided with 40% reporting a 6 or 7 and 24% reporting a 1 or 2 on a scale of 1-7, with mean QoL: 3.7 (1-7). Quality of Life and perceived health were less among the group with SID, but the difference was not statistically significant.

Care needs

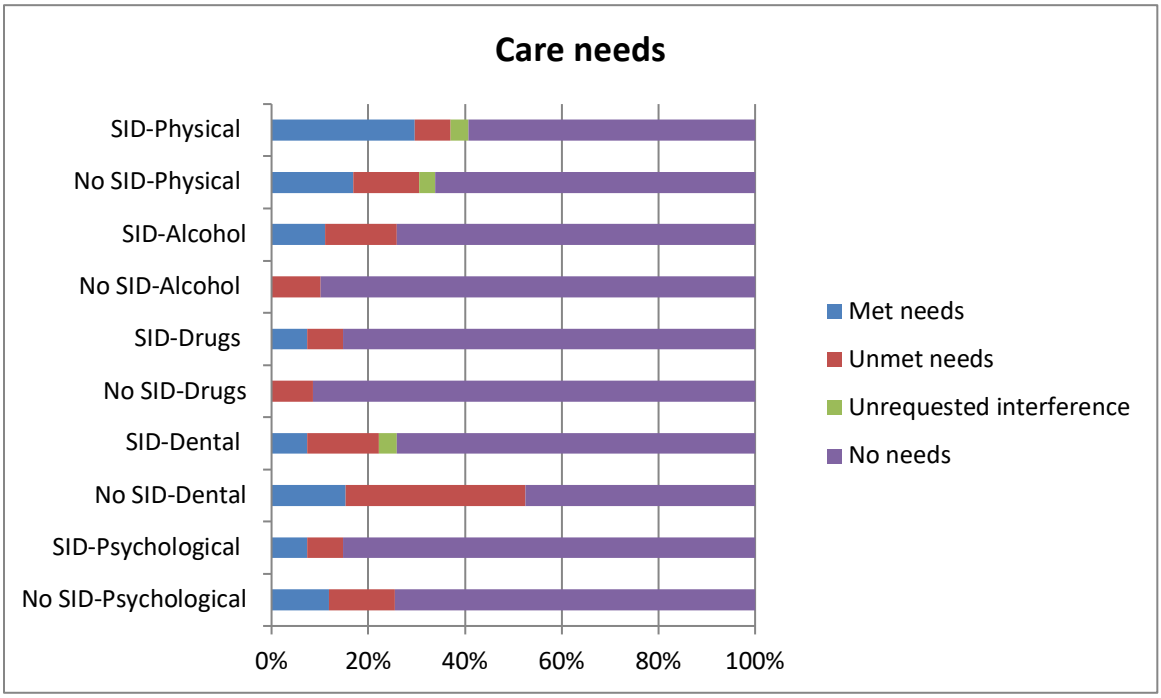

Figure 2 The need for help and use of care sorted by participants with and without a SID. SID: Suspected intellectual disability. N=86.

The majority of participants reported no care needs. The highest percentage of unmet needs for carewere reported for dental help (30.2%).In the domains physical help, psychological help and alcohol addiction 11.6% reported unmet needs for care. Seldom participants received unrequested interference; this did not occur at all for mental health problems or addiction.

There was no significant difference between care needs for the SID group versus the no SID group. The group without SID more often reported unmet needs for care in all domains except for alcohol addiction. Homeless people with SID more often reported met needs for care in the domains of medical care and addiction care than homeless people without SID.

Service use

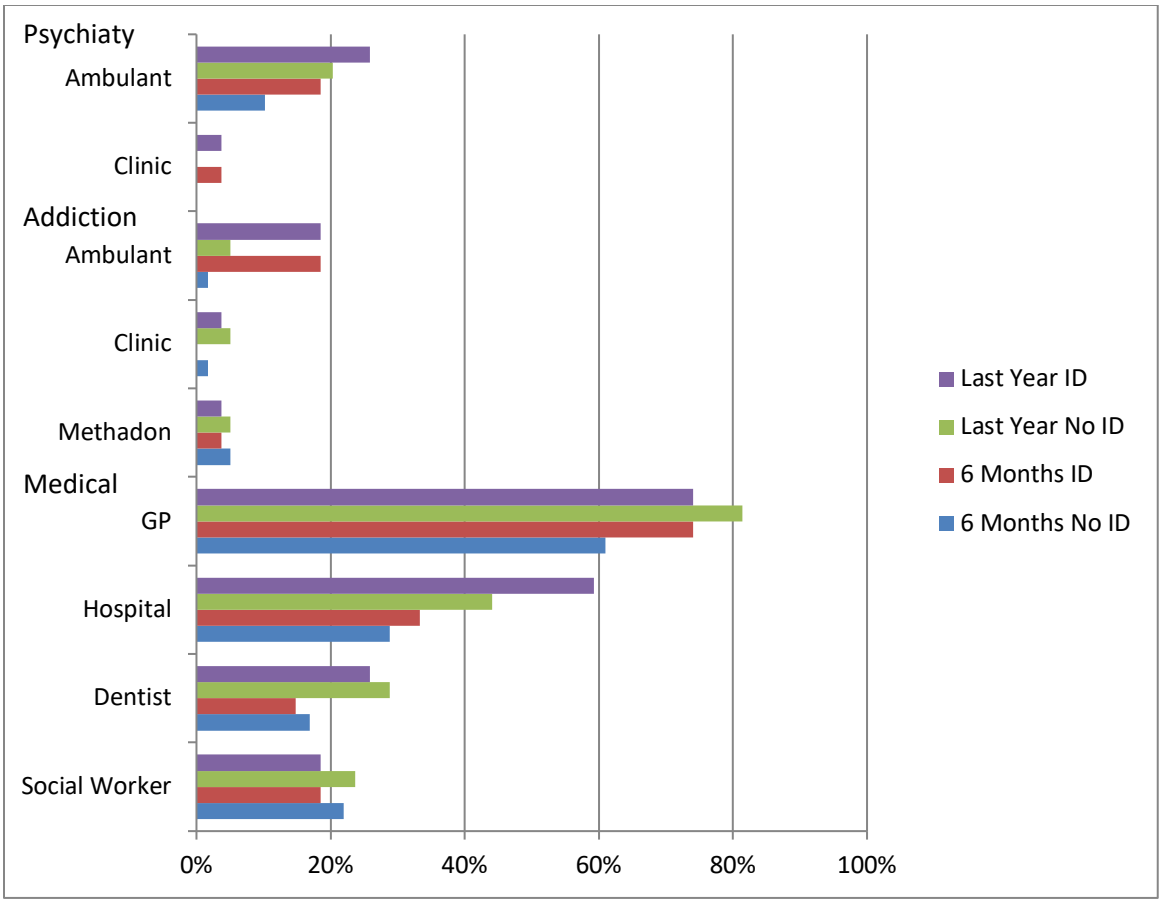

Figure 3 Use of care over the last year and the last 6 months sorted by participants with and without a SID. ID: Intellectual disability. GP: General Practitioner. N=86.

The General Practitioner is the health professional most visited by the participants. Participants with SID received significantly more often addiction treatment: 18.5% versus 5.1% (χ^2=3.962, p=0.047). Within the other domains no significant differences were found.

DISCUSSION

In this study estimating the prevalence of SID in a homeless population in Nijmegen, the Netherlands SID was found in 31.4% of the participants (n=27). 67% of respondents experienced their health as good (6-7 on a 1-7 scale). Participants reported low care needs and most of them do not seek any contact with medical professionals. The highest unmet needs for care were reported for dental help (30.2%), though in the other domains there were unmet needs for care of 11.6%.

As hypothesized the prevalence of SID in our study is as high as in homeless populations in the four major cities in the Netherlands(5, 14), and much higher than the prevalence of an ID in the general population in the Netherlands (0.7%).(13)

In general Dutch population 79% of men and 74% of women perceived their health as good or very good(15) and this percentage is even higher among Dutch young adults (age 18-30) whose percieved health was 83.93 on a scale from 1-100.(16) The lower percentage found in the participants in our study is consistent with other studies (17, 18). In our study the mean subjective QoL was 3.7 (on a scale of 1-7). In the CODA G4 study, a study among homeless people in the four big cities in the Netherlands, homeless people reported their subjective QoL as average. (12, 13). Overall Dutch population reports their overall QoL with 7.7 (1= not satisfied, 10 = very satisfied). (14).

The percentages found in our study on unfulfilled care needs are in line with the results of the CODA G4 study.(17) This suggests that for homeless people in general it is hard to find appropriate care. Furthermore it suggests that professionals might miss care needs these people have. The fact that the group without SID, compared to the group without SID, more often reported unmet care needs may suggest that people without SID are better in recognizing their care needs, though finding the right help is difficult.

In our study, the General Practitioner is the health professional most visited by the respondents, which is in line with previous studies in the Netherlands. (17,18). All insured people can assess General Practice for all ailments without any payments.

The strength of this study was that we were able to interview a sample of homeless people in Nijmegen who visit the shelters, a usually “hard-to reach” group. On the other hand, still only a small amount of participants were included which impeded the calculation of correlations.
Another weakness is the fact that there might be a selection bias, due to the fact that the interviews were held only at the shelters for homeless people. The most vulnerable group (the people who don’t go to any shelter) might be missed, though this normally is a small group.
Substance abuse wasn’t an exclusion criteria for participating and can therefore influence the result of the HASI. The time you need for completing the test is one of the scoring criteria and several medications, drugs and/or alcohol can influence the speed of reactions and the concentration of participants.
The interview is based on self reporting and therefore subjective. The way people perceive their health, for example, does not always correspond to their actual health. However, in the normal population, the perceived health is an indication of the actual health.

Professionals working with homeless people have to be aware of the fact that the prevalence of SID is high among homeless people. For professionals it is hard to identify an ID, especially in persons with a so called disharmonic profile, which means that they score normal at one part of the IQ test and bad at the other.(20)It is therefore recommended to screen for ID in this population. Guidance and communication of professionals working with homeless people should be adapted to the possibilities of the patients. Comparing the several health sectors it is noted that participants with SID more often receive treatment for addiction than participants without SID. Therefore in this sector there should be even more awareness of this problem.
Homeless people reported a high unmet care needs for medical help(11.6%-30.2%). For this vulnerable group it is often difficult to recognize their need for help, they may be unable to get in contact with the right professionals and it is hard to find the right help.(20) When in contact with homeless people there should be attention for the medical needs of these people and these needs should be attended.
Lastly it is recommended to start a cooperation between professionals who have experience working with people with ID and professionals working for the homeless.

Conclusions

The prevalence of SID in homeless people in Nijmegen is 31.4%, which is high compared to general Dutch population.
Regarding medical help 11,6%-30,2% of participants reported unmet care needs. Participants with SID more often reported to receive treatment for addiction than participants without SID.
Homeless people are vulnerable. Professionals working with this population should be aware of the fact that the prevalence of SID is high and that there is an unfulfilled need for medical care. Therefore professionals need to work outreaching and adapt the way they communicate and give guidance to this specific population.

What's new:

- The prevalence of a suspected intellectual disability in homeless people in Nijmegen is 31.4%.
- The overall homeless population reported a fairly high unfulfilled need for medical help: 11.6%-30.2%
- Participants with SID more often receive treatment for addictions than participants without SID.

Box 2 What's new

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