

Region Västmanland

AIDS CENTRE

Follow-up of the use of weighted blanket

Report

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## **Abstract**

Weighted Blankets improves sleep in people who have a severe mental or motoric concern. Above all people who sleep with a weighted blanket feel more relaxed and less tense. A large percentage of those who started using a weighted blanket gets an improved and shortened sleep onset and feel that the continuous nocturnal sleep have increased. It is a prerequisite for the necessary recovery phase to function.

The follow-up shows that an improved sleep also gives effect daytime. Above all, experiencing the people that they are more rested. Many feel that anxiety has decreased and they feel more relaxed.

Weighted blankets should continue to be prescribed to people with severe mental and motoric concern that allow a good sleep that increases the quality of life. It is a simple and accessible tool that proved to have a major impact on the individual.

The Aids Institute has published a publication "Aid profitable – Cost-benefit evaluation of aids for people with mental disabilities" that demonstrates that the aids are profitable for the society.

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## Introduction

Thanks to all prescribers, occupational therapists and physiotherapists who made monitoring possible. Many thanks to the politicians of "Gemensamma nämnden"\* who had the courage to decide that the aid weighted blanket became a prescribable aid in Västmanland already in 2008.

## Background and Facts

Weighted Blankets became possible to prescribe as an aid in Västmanland in 2008 by a decision of "Gemensamma nämnden". The decision was based on a pilot project in which 12 people got to try weighted blanket for 3 weeks.

The prescription of weighted blanket has increased significantly since 2011. A surge in demand from users and prescribers of the benefits of the aid, induced aids consultants in cognition area at the Aid Centre to monitor the use of the prescribed weighted blankets.

2009 were prescribed 24 weighed blankets, 2010 were prescribed 72 units and 2011 were prescribed 240 units.

Weighted blankets are today (2011) prescribed in all regions in Sweden except 2

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\*Aids Centre is governed by a joint committee ("Gemensamma nämnden") consisting of 15 members from the county's municipalities and the county council. The purpose of the joint Committee is to cooperate on aid management in the county.

## Prescribing criteria

In Region Västmanland aids are prescribed based on the Manual agreed in the joint committee.

Aids are classified according to the international classification standard ISO 9999

Weighted Blankets can be found in ISO code

### 04 AIDS FOR PERSONAL MEDICAL TREATMENT

#### 04 27 Stimulators

#### 04 27 18 Aids for sensory stimulation

##### *Prescribers*

Occupational therapists and physiotherapists

##### *Criteria for prescribing*

To alleviate severe mental or motoric anxiety

## Assortment

Västmanland County Council applies a leasing model whereby aid is rented out to businesses in counties and municipalities including private healthcare units, various government agencies and private businesses. The rental price includes the testing, adaptation, repairs, transport and reconditioning.

The range includes two different types of weighted blankets in 6 different models.\*

## Purpose

To get a comprehensive picture of the patient's perceived effects when using weighted blanket.

## Goal

To receive an answer if weighted blanket is an aid that improves sleep and sleep onset.

To receive an answer if weighted blanket is an aid that provides daytime effects.

To receive an answer if weighted blanket is an aid that can be an alternative to medication.

To be able to communicate in-depth knowledge and experience at the education and try-out.

\*In 2016 there are totally 32 models from 3 suppliers

## Method

The monitoring was carried out using a dispatch of a questionnaire, see Appendix 1. The Dispatch covered all persons who had received weighted blanket prescribed in 2011. These amounted to 242 pieces. The questionnaire was sent to the responsible prescribers who conducted the monitoring in cooperation with users and their families / staff. The follow-up was returned to the Aids Centre and has been compiled by responsible consultants.

The survey questions are based on a try-out protocol;  
Diary for try-out of weighted blanket, Annex 2. This is as a support for prescribers in the prescription process.

## Division into groups

The results of the survey are presented per variety of activity and age, children / adults. The different groups are:

*Weighted blankets total* - all surveys report

*Weighted blankets Children ( C )* - includes children in the Disability Centre / habilitation and children with blankets prescribed in the family medical practice.

*Weighted Blankets adults Disability Centre ( DC )* - includes Västmanland county, from 20 years upwards.

*Weighted Blankets adults Psychiatry ( Psy )* - comprising Västmanland county, from 18 years and up, in the municipal and county activities.

*Weighted Blankets adults General medical practise ( GMP )* - includes various Västmanland County General Medical practise from 20 years upwards.

*Weighted Blankets adult Special housing and rehabilitation ( SHR )* - includes Västmanland county municipalities special accommodations for adults, (excluding lodging in psychiatry,) as well as blankets prescribed to adults who receive assistance from various rehabilitation activities in the county

## Results: Prescription of weighted blankets total

Of the 242 mailed questionnaires 158 responses were received. The dropout was 85 pcs and response rate therefor 65%.

### Use, age and gender

120 people out of 158 who received a prescribed weighted blanket still use it.

Some of the returned blankets have been changed to another model. This was done outside the study time frame. The age of the users of the weighted blankets ranges from 2 to 87 years. The gender breakdown shows that 60% of those using the weighted blanket are women.

	Whereof men	Whereof women	Total
Quantity	68	90	158
Still use the blanket	48	72	120
Has returned the blanket	19	18	37

75% of the users of the weighted blanket use their blanket daily. More than 90% are using weighted blanket at night, nearly half use it even at daytime.

The use is calculated upon the 120 that still have the blanket.

Daily use	90
During the night	112
During the day	54

### Patient experienced effects

The effect is calculated on the 120 who still use the weighted blanket.

#### Effect sleep onset and sleep

82% have experienced an increase in bodily relaxation at night. 73% feel that they have an improved sleep onset time. 72% have increased their continuous nocturnal sleep. 63% experience decreased anxiety. This is consistent in all groups with a small variation.

Improved sleep onset	88
Increase of the continuous sleep	86
Increase of bodily relaxation	99
Decreased anxiety	75



### Effect daytime

A better night's sleep has also given effect in the daytime. About half of all users feel more rested, experience less anxiety and a reduced motoric uneasiness in the body. The weighted blanket has also had an effect on mood and concentration.

Better wake-up	43
More rested	66
Increased concentration	31
Reduced motoric uneasiness	52
Reduced bodily tension and pain	45
Reduced worry and anxiety	54
Better mood	35

### Effect medication

The survey asked the question – did you medicate for your sleep problems before you got the weighted blanket? Half said they did. To the question – “do you medicate now?” responded 54 of 60 “Yes”. The results show that 13 patients have finished their medication, 16 patients reduce their dosage. Several of those who reduced the dose indicated the comment that they "reduced by half" or "only when necessary".

There are 7 people who started medication. The comments have shown that weighted blanket and medication are measures that were started simultaneously. Most are found in the group of children.

Medication before test period	60
Medication after test period	54
Reduced dose	16
Finished medication	13
Started medication	7

### Type of weighted blanket

Calculated on all answers

<b>Chain weighted blanket totally</b>	<b>94</b>
Whereof 4 kg	33
Whereof 8 kg	59
Whereof 14 kg	1
<b>Ball weighted blanket totally</b>	<b>66</b>
Whereof Harpo L	32
Whereof Harpo S	2
Whereof Bello	15
Whereof Goso	17

## Results: Prescription of weighted blankets children

### Use, age and gender

36 people out of 51 who received a prescribed weighted blanket still use it.

The age of the users vary from 2 to 17 years. Average age is 10 years. The gender distribution in the group of children shows that 80% of those using weighted blankets are boys. This is seen especially in the field of NEP, neuropsychiatric diagnoses children, where 23 boys with diagnosis in this field received a prescribed weighted blanket, relative to 3 girls. The gender distribution differs from the overall performance where it is predominantly women who use weighted blanket.

	Whereof boys	Whereof girls	Total
Quantity	37	14	51
Still use the blanket	29	7	36
Has returned the blanket	7	7	14

Of those who returned the blanket 5 people was diagnosed with autism, 2 with Asperger, 1 otherwise syndrome, 3 with ADHD, ADD or Damp and 3 people who have a learning disability.

1 person still has the blanket but do not use it.

83% of the users of the weighted blanket use their blanket daily. More than 90% are using weighted blanket at night, 25% use it even at daytime.

The use is calculated upon the 36 that still have the weighted blanket

Daily use	30
During the night	34
During the day	9

### Patient experienced effects

The effect is calculated on the 36 who still have the weighted blanket.

#### Effect sleep onset and sleep

80% have experienced an increase in their continuous nocturnal sleep .72% feel that they have an improved sleep onset time. 69% experience increase in bodily relaxation. 47% experience decreased worry and anxiety

Improved sleep onset	26
Increase of the continuous sleep	29
Increase of bodily relaxation	25
Decreased anxiety	17

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- In this report the neuropsychiatric diagnoses (NEP) comprises; ADD, Damp, ADHD, Asperger syndrome, Learning disability and Autism

### Effect daytime

About 30% of the children feel more rested and has a better wake-up in the morning. 20% experience a reduced motoric uneasiness. Also bodily tension and pain, mood, worry , anxiety and concentration are positively effected

Better wake-up	10
More rested	12
Increased concentration	2
Reduced motoric uneasiness	8
Reduced bodily tension and pain	5
Reduced worry and anxiety	2
Better mood	5

### Effect medication

5 persons have described that they have started medication at the same time as they started to use the weighted blanket. Of these have all 5 stated that they experience that the weighted blanket gives effect, specially at sleep on-set and during the night.

Medication before test period	11
Medication after test period	15
Reduced dose	1
Finished medication	1
Started medication	5

### Type of weighted blanket

Calculated on all answers

<b>Chain weighted blanket totally</b>	<b>35</b>
Whereof 4 kg	18
Whereof 8 kg	17
<b>Ball weighted blanket totally</b>	<b>16</b>
Whereof Harpo L	6
Whereof Harpo S	2
Whereof Bello	5
Whereof Goso	3

### Prescribing units

Disabled Centre Region Västmanland  
Family Medical offices in Region Västmanland

## Diagnosis Distribution children

	Whereof boys	Whereof girls	Total
ADD/ADD + Damp	2		2
ADHD	5		5
Asperger	10	2	12
Asperger + ADHD	2	1	3
Pervasive developmental disorder	1		1
Pervasive developmental disorder + ADHD	2		2
Autism + ADHD	1		1
Autism + US	2	1	3
Autism	4	5	9
US	4	2	6
US + ADD	1		1
Downs S		1	1
Motoric retardation	1		1
Other syndrome		1	1
Chronic lack of sleep		1	1
Multifunction disability	1		1
No specific diagnose	1		1

## Results: Prescription of weighted blankets adults Disability Centre

### Use, age and gender

14 people out of 20 who received a prescribed weighted blanket still use it.

The age of the users of the weighted blankets ranges from 20 to 78 years. Average age is 50 years. The gender breakdown shows that 80% of those using the weighted blanket are women.

	Whereof men	Whereof women	Total
Quantity	5	15	20
Still use the blanket	3	11	14
Has returned the blanket	2	4	6

Of those who have returned the blanket are one with Asperger + Phobia, one with Autism + mentally retardation, one with mentally retardation + dementia, two with CP damage and one with unspecified diagnosis. 88% of the users of the weighted blanket use their blanket daily. All are using the weighted blanket at night and 88% use it even at daytime.

The use is calculated upon the 14 that still have the weighted blanket.

Daily use	8
During the night	9
During the day	8

### Patient experienced effects

The effect is calculated on the 14 who still have the weighted blanket.

#### Effect sleep onset and sleep

86% have experienced an increase in bodily relaxation at night. Almost half of the users feel that they have an improved sleep onset time, experience decreased anxiety, have increased their continuous nocturnal sleep.

Improved sleep onset	6
Increase of the continuous sleep	5
Increase of bodily relaxation	12
Reduce worry and anxiety	6

#### Effect daytime

57% experience reduced worry and anxiety thanks to the weighted blankets, half of the users experience a reduced motoric uneasiness. More than 40% experience less bodily tension and pain. Some state that they have a better wake-up in the morning and increased concentration. None has however stated any positive effect on the mood in this group.

Better wake-up	3
More rested	6
Increased concentration	2
Reduced motoric uneasiness	7
Reduced bodily tension and pain	6
Reduced worry and anxiety	8
Better mood	0

## Effect medication

One of three has been able to finish the medication for the sleep problems

Medication before test period	3
Medication after test period	2
Finished medication	1

## Type of weighted blanket

Calculated on all answers.

One person uses both a 4 and a 8 kg Chain weighted blanket.

<b>Chain weighted blanket totally</b>	<b>9</b>
Whereof 4 kg	2
Whereof 8 kg	7
<b>Ball weighted blanket totally</b>	<b>12</b>
Whereof Harpo	9
Whereof Bello	1
Whereof Goso	2

## Prescribing units

Disabled Centre Region Västmanland

## Diagnosis Distribution adults Disability Centre

	Whereof men	Whereof women	Total
Asperger	1	5	6
Asperger + ADHD		1	1
Asperger + bipolar disease		1	1
Asperger + phobia			1
Pervasive developmental disorder		1	1
Autism + US	1	1	2
Autism spectrum	1		1
US		1	1
US + Dementia		1	1
US + anxiety		1	1
CP	1	1	2
No specific diagnose		2	2

## Results: Prescription of weighted blankets adults Psychiatry

### Use, age and gender

60 people out of 67 who received a prescribed weighted blanket still use it. The age of the users of the weighted blankets ranges from 18 to 58 years. Average age is 37 years. The gender breakdown shows that 75% of those using the weighted blanket are women.

	Whereof men	Whereof women	Total
Quantity	19	48	67
Still use the blanket	15	45	60
Has returned the blanket	4	3	7

Of those who have returned the blanket are three within the diagnose group psychotic disorders, three within common psychiatric disorders and one within NEP + other.

72% of the users of the weighted blanket use their blanket daily. 97% are using the weighted blanket at night and 47% use it even at daytime.

The use is calculated upon the 60 that still have the weighted blanket.

Daily use	43
During the night	58
During the day	28

### Patient experienced effects

The effect is calculated on the 60 who still have the weighted blanket.

#### Effect sleep onset and sleep

88% have experienced an increase in bodily relaxation. 77% experience an improved sleep onset, 73% have increased their continuous nocturnal sleep and about the same proportion experience decreased worry and anxiety.

Improved sleep onset	46
Increase of the continuous sleep	44
Increase of bodily relaxation	53
Reduce worry and anxiety	43

#### Effect daytime

72% feel more rested, 60% experience reduced worry and anxiety even daytime. About 50% experience a reduced motoric uneasiness, bodily tension and pain. About 30% have a better wake-up in the morning, mood and increased concentration.

Better wake-up	25
More rested	43
Increased concentration	20
Reduced motoric uneasiness	30
Reduced bodily tension and pain	28
Reduced worry and anxiety	36
Better mood	23

## Effect medication

Within this group, medication changes associated with the start of weight blanket use most frequently. One can see that about half of those receiving medication for insomnia before, have reduced or stopped their medication.

Medication before test period	38
Medication after test period	31
Reduced medication	11
Finished medication	10
Started medication	3

## Type of weighted blanket

Calculated on all answers.

<b>Chain weighted blanket totally</b>	<b>41</b>
Whereof 4 kg	8
Whereof 8 kg	32
Whereof 14 kg	1
<b>Ball weighted blanket totally</b>	<b>26</b>
Whereof Harpo	14
Whereof Bello	9
Whereof Goso	3

## Prescribing units

Psychosis Reception Väster, Västerås	11
Psychosis Reception Öster, Västerås	7
Anxiety Reception, Västerås	6
Eating Disorder, Västerås	1
Forensic psychiatry	1
adult Psychiatry, Fagerstad	15
adult Psychiatry, Sala	18
Work for disabled, Västerås	5
Special accommodation for disabled	1
Psychiatry Team Västerås	2

## Diagnosis Distribution adults Psychiatry

	Whereof men	Whereof women	Total
Psychosis Diseases	4	7	11
General Psychiatry	5	20	25
Neuropsychiatric diagnoses	7	11	18
Neuropsychiatry + other	3	10	13



## Diagnosis Grouping

The following groups have been used in the report.

- *Psychotic disorders*; Unspecified nonorganic psychosis, Unspecified nonorganic psychosis including post traumatic stress disorder, paranoid schizophrenia, schizophrenia, schizoaffective disorder and psychosis

- *General psychiatric diseases*; anxiety, depression, emotional unstable personality disorder, post-traumatic stress syndrome, obsessive and bipolar disorder

- *Neuropsychiatric diagnoses*; ADHD, ADD, Damp and Asperger Syndrome

- *Neuropsychiatry + another*, as above but with varying degrees of co-morbidity, may be extra general psychiatric diagnosis or psychosis diagnosis etc.

## Results: Prescription of weighted blankets adults Neuro-psychiatric diagnoses

### Use, age and gender

18 persons have had weighted blankets prescribed, all still use it.

The age of the users of the weighted blankets ranges from 18 to 53 years. Average age is 37 years. The gender breakdown shows that 61% of those using the weighted blanket are women.

13 persons use their blanket daily. All are using the blanket at night and 9 of the 18 use it even at daytime.

### Patient experienced effects

#### Effect sleep onset and sleep

All experience an increase in bodily relaxation and 88% have increased their continuous nocturnal sleep. 72% experience an improved sleep onset, and experience decreased worry and anxiety.

Improved sleep onset	13
Increase of the continuous sleep	16
Increase of bodily relaxation	18
Reduce worry and anxiety	13

#### Effect daytime

83% feel more rested, 77% experience a reduced motoric uneasiness, 50% experience reduced worry and anxiety and better mood. 44% have a better wake-up in the morning and 38% notice an increased concentration. 33% experience reduced bodily tension and pain.

Better wake-up	8
More rested	15
Increased concentration	7
Reduced motoric uneasiness	14
Reduced bodily tension and pain	6
Reduced worry and anxiety	9
Better mood	9

#### Effect medication

11 of 18 stated that they medicated before the use of the weighted blanket. 7 of these 11 have reduced or finished the medication.

Medication before test period	11
Reduced or finished medication	7

## Type of weighted blanket

Calculated on all answers.

<b>Chain weighted blanket totally</b>	<b>13</b>
<b>Ball weighted blanket totally</b>	<b>5</b>

## Diagnosis Distribution adults neuro-psychiatric diagnoses

ADHD	15
Asperger Syndrome	2
Damp with learning difficulties	1

## Results: Prescription of weighted blankets adults General Medical Practice

### Use, age and gender

8 people out of 10 who received a prescribed weighted blanket still use it. The age of the users of the weighted blankets ranges from 40 to 66 years. Average age is 58 years. The gender breakdown shows that 87% of those using the weighted blanket are women.

	Whereof men	Whereof women	Total
Quantity	3	7	10
Still use the blanket	1	7	8
Has returned the blanket	2		2

They who returned the blanket suffered from anxiety plus on also a brain damage with spasticity.

All of the users of the weighted blanket use their blanket daily both in the night and at daytime

The use is calculated upon the 8 that still have the weighted blanket.

Daily use	8
During the night	8
During the day	8

### Patient experienced effects

The effect is calculated on the 8 who still have the weighted blanket.

#### Effect sleep onset and sleep

All experience an improved sleep onset, 88% have increased their continuous nocturnal sleep, experienced an increase in bodily relaxation and a decreased worry and anxiety.

Improved sleep onset	8
Increase of the continuous sleep	7
Increase of bodily relaxation	7
Reduce worry and anxiety	7

#### Effect daytime

88% experience reduced worry and anxiety daytime. 75% experience a reduced motoric uneasiness, increased concentration and a better mood.

Better wake-up	4
More rested	5
Increased concentration	6
Reduced motoric uneasiness	6
Reduced bodily tension and pain	5
Reduced worry and anxiety	7
Better mood	6

### Effect medication

6 persons of the 8 who uses the weighted blanket medicated before they started to use the blanket. 4 of these 6 have been able to reduce the prescribed dose whereof 2 of them with half

Medication before test period	6
Medication after test period	6
Reduced medication	4

### Type of weighted blanket

Calculated on all answers.

<b>Chain weighted blanket totally</b>	<b>6</b>
Whereof 4 kg	3
Whereof 8 kg	3
<b>Ball weighted blanket totally</b>	<b>4</b>
Whereof Harpo	2
Whereof Goso	2

### Prescribing units

Sala Väsby GMP	2
Hemdals GMP	3
Hambergs ergonomics & rehabilitee	2
“My heart” Fagersta	1
Önsta Gryta GMP	1
Carema Köping	1

### Diagnosis Distribution adults General Medical Practice

	Whereof men	Whereof women	Total
Anxiety	1	3	4
Sleep disturbance, restless sleep		2	2
Dementia	1		1
Muscle and joint pain		1	1
Unspecified		1	1
Brain damage	1		1

## Results: Prescription of weighted blankets adults Special housing and rehabilitation

### Use, age and gender

2 people out of 10 who received a prescribed weighted blanket still use it. Of those who have returned the blanket are 4 deceased. 3 persons have stated the blanket did not function for them. The blanket felt weird. One reason for this could be that they all were far gone in their dementia. The age of the users of the weighted blankets ranges from 57 to 84 years. Average age is 67 years. The gender breakdown shows that 100% of those still using the weighted blanket are women.

	Whereof men	Whereof women	Total
Quantity	4	6	10
Still use the blanket		2	2
Has returned the blanket	4	4	8

Both persons still using the weighted blanket use it at night and one of them use it even at daytime.

The use is calculated upon the 2 that still have the weighted blanket.

Daily use	1
During the night	2
During the day	1

### Patient experienced effects

The effect is calculated on the 2 who still have the weighted blanket.

#### Effect sleep onset and sleep

Both persons experience an improved sleep onset, bodily relaxation and decreased worry and anxiety.

One person also experience that she has increased her continuous nocturnal sleep.

Improved sleep onset	2
Increase of the continuous sleep	1
Increase of bodily relaxation	2
Reduce worry and anxiety	2

#### Effect daytime

One of the persons also experienced an effect at daytime.

Better wake-up	1
More rested	
Increased concentration	1
Reduced motoric uneasiness	1
Reduced bodily tension and pain	1
Reduced worry and anxiety	1
Better mood	1

### Effect medication

Both persons medicated before they started to use the blanket. One of the persons have finished her medication (sleep onset medication). She describes the blanket as completely unbelievable and cannot think to be without it.

Medication before test period	38
Medication after test period	31
Finished medication	10

### Type of weighted blanket

Calculated on all answers.

<b>Chain weighted blanket totally</b>	<b>2</b>
Whereof 4 kg	2
<b>Ball weighted blanket totally</b>	<b>8</b>
Whereof Harpo	1
Whereof Goso	7

### Prescribing units

Rehabmedicin, Region Västmanland Hospital	3
Rehab Centre, Arboga	2
Hagaängs Elderly home, Västerås	1
Gryta Special short time housing, Västerås	2
Ankaret, Västerås	1
Klockarkärleken, Västerås	1

### Diagnosis Distribution adults Special housing and rehabilitation

	Whereof men	Whereof women	Total
Dementia	1	5	6
Dementia + Parkinson	1		1
Parkinson	2		2
Unspecified		1	1

## **Compilation of answers from the users on the question "Describe what effect you think that weighted blanket gives you"**

- I feel cuddled and cherished which gives me great confidence and allows me to relax both physically and mentally.
- Anxiety damping, increased sense of security.
- Sleeping great once I fell asleep, love the blanket.
- Reduction or discontinuing medication for sleep problems.
- Less pain, less anxiety at night.
- More rested.
- Sleep deeper and calmer.
- Lands, will wind down.
- A very good and efficient sleep. The sleep becomes smoother and deeper.
- Shorter sleep onset time more continuous sleep.
- Security, easier to refrain from cutting themselves.
- Increased concentration daytime.
- Do not wake up with equally strong anxiety. Fall asleep again faster on the nights when I wake up
- Feel secure, anti-stress effect, more comfortable deeper sleep.

## **Compilation of "Other views" from the users**

- It gets too hot to use a whole night, use it when I'm worried at daytime and sometimes at night.
- It was difficult to fill in the questionnaire, have memory difficulties.
- A great tool that helps to relieve anxiety. Nice to get something heavy on the body and it feels like someone hugs me. Easier to relax and come to rest.
- Incredibly happy with the Chain weighted blanket!
- I love my Ball weighted blanket and sleeping without it is to me almost unthinkable my low. I will probably bring it on shorter trips and possible hospitalization.
- Right now I have a little hard to use the weighted blanket as I recently have had a surgery in my low back, and for that reason the quilt is a little too heavy. But as soon as I get better in the back, it will certainly come to use again !!! The blanket is superb!!!
- Changed the medicine from Immovane to Propavan, sleep all night with medicine + weighted blanket, not with only medicine
- The blanket works well but is too warm, feel calmer and safer with it
- Medicate sometimes with Propavan, squeeze balls as therapy
- Strong effect when in bad mood, reduce anxiety, my security blanket (like for toddlers), feel my body borders.
- Finished with Propavan and Cirkadin, loves the ball weighted blanket. Can't sleep without it!
- Finished with Flunitrazepam uses only Stilnoct. The blanket is superb!
- Still use Imovane, reduced Nitrazepam
- Finished with Stilnoct, Theralen, Lergigan
- Uses weighted blanket every night, can not be without it
- Good, started to eat, sleep safer
- He sleeps all night, fitter, happier, better communication with friends, better school results. Oscar is like a new boy, experience that he has a new life!
- The patient experienced blanket strange, stones, did not want it
- Can recommend the blanket to all, can not be without it!
- Difficult with the try-out, could not fulfil because of large personnel group



## Discussion

To sleep and feel rested is essential to perform the activities of daily life, both the most primary as managing his own person and his family. But even in great part to cope with school, education and work. For parents whose children do not have a good sleep, stress can become so great that in some cases be leading to sick leave.

Weighted blanket is an effective, easy and inexpensive tool for insomnia. No adverse side effects have been demonstrated if you follow the Manual recommendations. The recommendations apply to incontinence covers and the use of the Chain weighted blanket to people who have implanted devices that may be affected by metal. When using weighted blanket you should also take into account whether the person has a weak lung capacity.

Some people experience the weighted blanket as warm or they produces sound when you move, changing the model of the blanket can usually eliminate this.

The numbers of returned blankets are greatest for people with dementia diagnosis in special housing, many of the people in the study are deceased. Another possible reason could be that the try-out of weighted blanket should be done as early as possible in this type of disease so the person should be able to participate and understand the aid. A parallel can be seen in patients with severe autism where the return of the blankets is also high. To understand and be involved can be crucial for the patient for a functional use.

When looking at the different divisions into groups you can see that in "the adult psychiatry" a very high proportion of the prescribed blankets are still by the patients, they are used and give good effect. Of the 67 followed up prescriptions 60 people still use the blankets. 53 of 60 say they can relax better at night, 44 out of 60 experiencing improved sleep onset. 43 of 60 have reduced nocturnal worry and anxiety. As a result of the improved sleep it is seen that 43 of 60 feel more rested at daytime. It is also within this group that most people indicate an improvement in mood.

Two important aspects have emerged regarding medication. One is that in the age group of children, two different treatments have started at the same time, both medication and weight blanket use. It may mean that it is difficult to evaluate what effort that paid off. The other aspect is that it is shown that a weighted blanket prescribed for motoric or mental worry can cause the person to terminate, reduce or change the dose of medication that is prescribed for the same needs.

The result is consistent with a study published in the Nordic Journal of Psychiatry 2011; 65: 89-94\* of child psychiatrists Allan Hvolby and professor of child psychiatry car Niels Bilenberg. The study showed that sleep onset time was shortened when using the Ball weighted blanket and the continuous nocturnal sleep was improved. It also showed a 10% improvement in the level of activity and attention in the daytime, which is also consistent with our report.

A master's work made by an occupational therapist Birgitta Søe Jensen and psychologist Pernilla Worm Pasqali \*\* 2006 show that Ball weighted blanket gives good effect on sleep for 64% of children, 40% indicate positive effect regarding mood and overreaction to sensory input. Just over 30% show positive effects on concentration and motoric uneasiness. These figures are higher than what is shown in this report but the effects correspond.

\* "Use of Ball Blanket in attention- deficit / hyperactivity disorder sleeping problems". A study in children 8-13 years with a diagnosis of ADHD.

\*\* "Interventionsundersøgelse av effekter ved brug af kugledyner hos 2-12 årige børn med SI-problemer". Intervention study of effects using ball weighted blankets at 2-12 årige children with SI problems.

A summary of the evidence and reports about weighted blanket use are in Annex 4.

Aid Centre in Region Västmanland often receive inquiries regarding weighted blanket prescription from parents whose children have been investigated on Child and Adolescent Psychiatry, often with an ADHD diagnosis. Child and Adolescent Psychiatry in Region Västmanland are today (2011) missing prescribers. Previously, parents have been referred to General Medical Practice. At the moment (2011) there is no clear responsibility for prescribing aids for this group. It is a dilemma that needs to be addressed as this report and previous studies demonstrate beneficial effects for children with neuropsychiatric diagnoses. Parents have testified great suffering for both the children and themselves. It is therefore important that there are prescribers for the children with neuropsychiatric diagnoses.

The Aid Institute\* has made a compilation of the present prescribers in child and adolescent psychiatry in the country, which shows that the number of prescribers is growing rapidly. Of the 15 Counties that answered, 8 counties have prescribers today(2011), Appendix 3.

The Aid Institute has implemented projects and developed models for a so-called cost-benefit analysis of where the social usefulness of the aid can be calculated. The most tangible benefit effects of an economic assessment is a gradually reduced need for support from the municipality and county, but also from family members and other relatives. Benefits of aids on the individuals' labour market situation is also of significant importance and one has calculated the financial effect if the person can remain in and complete occupation and production or even get an employment in the open market, reference 1.

\* The Aid Institute is a national resource centre for aids and accessibility. A large part of the work is about to spread knowledge about aids and methods for those working in the assistive technology field. This is done through pilot projects, training and networking. The Aid Institute also supports companies and organizations to develop ideas for new aids.

## References

### Referens 1

Aids profitable, cost-benefit assessment of aids for people with mental disabilities, Aid Institute.

## Appendixes

Appendix 1 Survey Monitoring and evaluation of weight blanket use

“Enkät Uppföljning och utvärdering av tyngdtäckes användning” Not translated/Included

Appendix 2 Diary for Try-out of weighted blanket

“Dagbok vid utprovning av tyngdtäcke”. Not translated/Included

Appendix 3 Summary prescribers in Child and Adolescent Psychiatry, Institute of Assistive Technology

“Sammanställning förskrivare inom Barn och Ungdomspsykiatri, Hjälpmedelsinstitutet”  
Not Translated/ Included

Appendix 4 Summary and summary of existing evidence and reports about weight blanket use.

## Appendix 4

Summary of evidence and reports on weight blanket use

### Use of Ball Blanket in attention-deficit / hyperactivity disorder, sleeping problems

Professor of Child Psychiatry Niels Bilenberg, Odense University, Denmark, and child psychiatrist Allan Hvolby, Esbjerg Denmark

Posted in Nordic Journal of Psychiatry 2011; 65: 89-94

Method: To evaluate the effect of the ballweighted blanket parents observe their children and keeps a the sleep diary during 28 nights.

Participants: 21 children

Age: 8-13 years

Diagnosis: ADHD

Control group: 21 healthy children

Summary:

- The sleep onset time is shortened by the use of ball weighted blanket to the same level as for the healthy children.
- The number of nights when it took more than 30 minutes to fall asleep was reduced from 19% to 0%
- Teachers saw a ≈10%, improvement in activity levels and attention.

*Allan Hvolby- has begun a continuing study that is expected to be completed in 2014.*

### Intervention Survey of effect of the use of ball weighted blanket of 2-12 year-old Children with SI problems.

Occupational Birgitta Søe Jensen and psychologist Pernilla Worm Pasqali, Southern Denmark University. Masterwork 2006.

Method: Interview with parents, 22 questions with focus on sleep disturbance, concentration / attention problems and overreaction to sensory stimulation.

Participants: 37 children

Age: 2-12 years

Diagnosis: SI problems

Summary:

- Ballweighted blanket gives best effect on sleep, 64%
- 40% showed positive effect concerning mood and hypersensitivity of sensory stimulation.
- Approximately 1/3 of the children showed positive effects on concentration, motoric uneasiness.
- Approximately: 1/5 showed improved attention.

## **Pilot study of use of Chain weighted blanket, Chain weighted blanket 4,1kg**

SDS clinic in Gothenburg, clinic for sleep and circadian rhythm disorders. 2008  
Method: Aktigrafi, Polysomnography, subjective registrations and sleep diary and KSS (Carolinian sleep scale) study was conducted over a 4-week period.

Participants: 5 women

Age: 41-58 years

Diagnosis: 4 had a diagnosis Insomnia, 1 woman control person

Summary:

Subjective evaluation

- 4 felt that it was easier to fall asleep.
- 3 experienced an improved subjective sleep quality
- 2 definitely felt more rested in the morning.
- 1 felt more alert.
- 2 of the people were interested in buying a quilt for the project, one wanted a heavier blanket and one wanted a larger blanket

Sleep Diary

- 4 of 5 had an improved sleep / wake relationship

KSS

- 3 of 5 had improved KSS value

Comment

- all data showed the same trend, that person's sleep as measured in the different sleep variables showed an improvement.

## **The use of weighted blanket and its impact on sleep**

At-stud Beatrice Andersson and at-stud Moa Vadman, Level C Department of Health and Medicine. Örebro University 2012

Method: Quantitative survey study aimed at people with neuropsychiatric diagnosis and that have been treated with weighted blanket for insomnia.

Participants: 18 people

Diagnosis: Neuropsychiatric diagnoses

Summary:

- All participants reported that their sleep has changed
- Sleep onset time decreased
- Number of sleeping hours increased
- Number of awakenings decreased
- The prescribed blankets were used
- More alert during the daytime

## **Sensory Stimulant blankets - psychosis**

A report from the project in the Aid Institute (HI's) government mandate "Accessibility in the Focus for people with mental disabilities. Occupational Therapist Ann Klockars, 2011

Method: Patients have tried and evaluated weighted blankets. Estimates and evaluations took place at the start, after one, two and three weeks.

Participants: 21 people, including three people in a pilot study

Age: 21-63 years

Diagnosis: Diagnosis Psychosis

Summary:

In the pilot study of three people were two who had the benefit of heavy blanket, whereof one person expressed that she feels rested on the day for the first time in 20 years.

K = Patient who used Chain Weighted Blanket

B = Patients who used the Ball Weighted Blanket

K1 = Blanket good, maybe helps a little

K2 = Experience calm and anxiety reduction

K3 = Fall asleep easier and reduces anxiety during daytime, getting better o better

B1 = Slept well even before use, Feels strange with the blanket

B2 = Slept on top of the blanket, good for the back

B3 = Slept well even before use, rests on the ball blanket in the day. Slightly improved sleep

B4 = Quits after 14 nights, can have a calming and analgesic effect.

11 patients discontinued the evaluation of different reasons

## **How is the aid ball weighted blanket experienced by children and adolescents and their families?**

R & D report 5/2012, aid consultant Helene Bengtsson Rehabilitation and Aids the Skåne region.

Method: Survey

Participants: The children and young people who in October 2010 had a ball weighted blanket prescribed by Aids Skåne region

Age: 3-19 years

Diagnosis: Insomnia, worry, anxiety, etc.

Summary:

35% of children / young people felt that the ball weighted blanket had a calming effect, 33% of children fell asleep easier, 18% reported improved sleep as the effect of using the Ball Weighted Blanket.