



HAL
open science

Evaluating self-reported pressure ulcer prevention measures in persons with spinal cord injury using the revised Skin Management Needs Assessment Checklist: reliability study.

Anthony Gélis, Jean-Pierre Daures, Charles Benaim, Paul Kennedy, Thierry Albert, Denis Colin, Pierre-Alain Joseph, Jacques Pelissier, Charles Fattal

► To cite this version:

Anthony Gélis, Jean-Pierre Daures, Charles Benaim, Paul Kennedy, Thierry Albert, et al.. Evaluating self-reported pressure ulcer prevention measures in persons with spinal cord injury using the revised Skin Management Needs Assessment Checklist: reliability study.. Archives of Physical Medicine and Rehabilitation, 2011, 49 (5), pp.653-8. 10.1038/sc.2010.177 . hal-00702066v2

HAL Id: hal-00702066

<https://u-bourgogne.hal.science/hal-00702066v2>

Submitted on 30 May 2012

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Table 1 : Back-translation Cycles. Values are mean scores. The item translation is validated if comparability of language mean score <3 or similarity of interpretation mean score $<2,5$.

| | Items | First back-translation Cycle | | Second Back-translation Cycle | |
|---------------------------|-------|------------------------------|------------------------------|-------------------------------|------------------------------|
| | | Comparability of language | Similarity of interpretation | Comparability of language | Similarity of interpretation |
| Skin Checks | 1 | 1 | 1 | - | - |
| | 2 | 2 | 1 | - | - |
| | 3 | 1.66 | 1.83 | - | - |
| | 4 | 3.66 | 3.66 | 1.66 | 1 |
| Preventing pressure ulcer | 1 | 2.16 | 2.16 | - | - |
| | 2 | 2 | 1.83 | - | - |
| | 3 | 4.33 | 4.5 | 2.16 | 1.83 |
| | 4 | 4.16 | 4.16 | 2 | 1.66 |
| Preventing wounds | 1 | 1.66 | 1.5 | - | - |
| | 2 | 2 | 2 | - | - |
| | 3 | 3.83 | 4 | 2.16 | 1.66 |
| | 4 | 3.5 | 3.66 | 2.66 | 2.33 |

Table 2 : clinical and demographics characteristics of the persons with SCI included in the study (N=138)

| Characteristics | Total (N=138) |
|-------------------------------------|---------------------------|
| Demographics | |
| Age (year) | 45.9 ± 14.9 (E:19-82) |
| Sex | |
| Men | 103 (75) |
| Women | 35 (25) |
| Weight (kg) | 70.4 ± 14 (E: 37-114) |
| Height (m) | 1.73 ± 0.09 (E : 150-197) |
| BMI (kg.m ⁻²) | 23.9 ± 3,7 |
| Lesion characteristics | |
| Age at the time of the injury (yrs) | 38 ± 16 (E:10-82) |
| Age of the injury (month) | 94 ± 127 (E : 1-696) |
| ASIA Score | |
| A | 83 (60) |
| B | 16 (11,5) |
| C | 15 (11) |
| D | 14 (10) |
| Lesion level | |
| Cervical | 49 (36) |
| Upper and lower back | 89 (64) |
| Etiology | |
| Traumatic | 112 (81) |
| Medical | 26 (19) |
| Skin characteristics | |
| Braden (6-23) | 15.8 ± 3 (9-23) |
| Pressure Ulcer | |
| Number | |
| 0 | 91(66) |
| 1 | 35 (25) |
| 2 | 7 (5) |
| 3 | 4 (3) |
| Location | |
| Sacrum | 23 (50) |
| Ischium | 11 (24) |
| Heel | 4 (9) |
| Trochanter | 3(6) |
| Others | 5 (10) |
| Stage (NPUAP) | |
| 1 | 6 (13) |
| 2 | 11 (24) |
| 3 | 17 (37) |
| 4 | 13 (28) |

The results are presented in Mean ± Standard-deviation or N (%)

ASIA : American Spinal Injury Association

NPUAP : National Pressure Advisory Panel 2007

Table 3 : Global reproducibility and reproducibility per Center for the revised SMnac and its subscores.

| Reliability ICCI%) | N | Skin Checks | Preventing pressure ulcers | Preventing Skin insults | Total |
|-----------------------|-----|-----------------------|----------------------------|-------------------------|-----------------------|
| Global | 138 | 0.879 (0.836 ; 0.912) | 0.872 (0.826 ; 0.907) | 0.775 (0.699 ; 0.83) | 0.899 (0.862 ; 0.927) |
| Per center | | | | | |
| Center 1 | 16 | 0.702 (0.351 ; 0.880) | 0.801 (0.545 ; 0.92) | 0.701 (0.348 ; 0.88) | 0.857 (0.656 ; 0.945) |
| Center 2 | 24 | 0.896 (0.779 ; 0.953) | 0.837 (0.665 ; 0.925) | 0.677 (0.393 ; 0.843) | 0.867 (0.722 ; 0.939) |
| Center 3 | 13 | 0.989 (0.966 ; 0.997) | 0.984 (0.950 ; 0.995) | 0.982 (0.949 ; 0.995) | 0.989 (0.969 ; 0.996) |
| Center 4 | 25 | 0.936 (0.864 ; 0.971) | 0.892 (0.775 ; 0.950) | 0.626 (0.324 ; 0.813) | 0.903 (0.797 ; 0.955) |
| Center 5 | 35 | 0.780 (0.611 ; 0.881) | 0.848 (0.724 ; 0.919) | 0.750 (0.563 ; 0.864) | 0.864 (0.752 ; 0.928) |
| Center 6 | 25 | 0.882 (0.756 ; 0.945) | 0.85 (0.704 ; 0.926) | 0.806 (0.624 ; 0.905) | 0.885 (0.768 ; 0.944) |

ICC :Intraclass correlation coefficients, CI :confidence interval

Table 4 : test – retest reliability of the items for the revised SMnac (weighted kappa coefficient)

| SMnac Categories | Items for each category | | | | | | | | | | |
|---------------------------------|-------------------------|------|------|------|------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Skin | 0.91 | 0.74 | 0.66 | 0.74 | - | - | - | - | - | - | - |
| Checks | | | | | | | | | | | |
| Preventing Wounds | 0.58 | 0.60 | 0.54 | 0.50 | - | - | - | - | - | - | - |
| Preventing pressure ulcer | 0.64 | 0.60 | 0.57 | 0.47 | 0.71 | 0.60 | 0.61 | 0.62 | 0.70 | 0.50 | 0.58 |