Supplemental Materials

Wegwarth, O., Spies, C., Ludwig, W. D., Donner-Banzhoff, N., Jonitz, G., & Hertwig, R.: **Educating Physicians on Strong Opioids by Descriptive versus Simulated-Experience Formats: A Randomized Controlled Trial.**

***Content***

1. CONSORT flow chart: General practitioners
2. CONSORT flow chart: Pain specialists
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**CONSORT 2010 Flow Diagram | ERONA trial with general practitioners**

Excluded (n = 3,131)

  Not meeting inclusion criteria (n = 7)

  Did not finish the survey (n = 55)

  Did not respond (n = 3,069)

Lost to follow-up due to nonresponse to invitation to wave 2 (n = 46)

Analyzed for wave 1 (T1) (n = 150)

**Allocated to simulated experience intervention** (n= 150)

 Received allocated intervention (n = 150 )

 Did not receive allocated intervention

 (n = 0)

Analyzed for wave 1 (T1) (n = 150)

Lost to follow-up due to nonresponse to invitation to wave 2 (n = 40)

Analyzed (n = 104)

Assessed for eligibility

(n = 3,431)

## Analysis T1

## Enrollment

Randomized (n= 300)

## Analysis T2

Analyzed (n = 110)

## Follow-up (T2)

## Allocation

**Allocated to descriptive intervention**

(n = 150)

 Received allocated intervention (n = 150)

 Did not receive allocated intervention (n = 0)



**CONSORT 2010 Flow Diagram | ERONA trial with pain specialists**

Lost to follow-up due to nonresponse to invitation to wave 2 (n = 51)

Analyzed for wave 1 (T1) (n= 150)

Assessed for eligibility

(n= 5,389)

## Enrollment

**Allocated to descriptive intervention**

(n= 150)

 Received allocated intervention (n= 150)

 Did not receive allocated intervention (n= 0 )

Randomized (n= 300)

Excluded (n= 5,089)

  Not meeting inclusion criteria (n= 0)

  Did not finish the survey (n= 72)

  Did not respond (n= 5,017)

## Analysis T2

Analyzed (n = 99)

## Follow-up (T2)

## Analysis T1

## Allocation

**Allocated to simulated experience intervention** (n= 150)

 Received allocated intervention (n= 150 )

 Did not receive allocated intervention (n= 0)

Analyzed for wave 1 (T1) (n= 150)

Analyzed (n= 113)

Lost to follow-up due to nonresponse to invitation to wave 2 (n = 37)

**Table S1**

***Propensity to Implement Intended Prescription Behavior (T1) Into Actual*** *Prescription* ***Behavior (T2) per Intervention***

|  |  |  |  |
| --- | --- | --- | --- |
| ***General practitioners*** | **Fact box intervention** (*n* = 110) | **Simulated experience intervention** (*n* = 104) | ***Differences between interventions*** |
| **Treatments prescribed to patients with chronic, noncancer pain** | *Actual behavior is equal or exceeds intended behavior §**(% people)* | *Actual behavior is inferior to intended behavior§§**(% people)* | *Actual behavior is equal or exceeds intended behavior §**(% people)* | *Actual behavior is inferior to intended behavior§§**(% people)* | ***p\****  |
| Strong opioids | 93.3 | 6.7 | 98.2 | 1.8 | .013\* |
| Nonsteriod anti-inflammatory drugs  | 90.9 | 9.1 | 89.4 | 10.6 | .602 |
| Weak opioids | 79.1 | 20.9 | 94.2 | 5.8 | .001\* |
| Multimodal therapy | 80.9 | 19.1 | 88.0 | 12.0 | .041\* |
| Physiotherapy, endurance sports | 90.9 | 9.1 | 92.6 | 16.0 | .519 |
| Psychotherapy | 89.0 | 11.0 | 91.7 | 8.3 | .343 |
| Means of opioid reduction | 82.8 | 17.2 | 92.2 | 7.8 | .003\* |
| ***Pain specialists*** | **Fact box intervention**(*n* = 99) | **Simulated experience intervention** (*n* = 113) |  |
| Strong opioids | 91.9 | 8.1 | 98.2 | 1.8 | .031\* |
| Nonsteriod anti-inflammatory drugs | 91.9 | 8.1 | 91.2 | 8.8 | .841 |
| Weak opioids | 83.8 | 16.2 | 91.2 | 8.8 | .105 |
| Multimodal therapy | 77.8 | 22.2 | 89.4 | 10.6 | .022\* |
| Physiotherapy, endurance sports | 96.0 | 4.0 | 95.6 | 4.4 | .890 |
| Psychotherapy | 93.9 | 6.1 | 92.9 | 7.1 | .766 |
| Means of opioid reduction | 86.9 | 13.1 | 95.6 | 4.4 | .023\* |

*Note.* *§* “Exceeds intended behavior” means for the “prescription of WHO-III-opioids” and “prescription of WHO-II-opioids” a lower reported prescription rate at T2 than as intended at T1, and for the remaining 5 therapy option a higher reported prescription rate at T2 than as compared to T1. *§§*“Inferior to intended behavior” means for the “prescription of WHO-III-opioids” and “prescription of WHO-II-opioids” a higher reported prescription rate at T2 than as intended at T1, and for the remaining 5 therapy option a lower rate at T2 as compared to T1.

\* Significance level is two-tailed and based on Chi-Square-test.

**Table S2**

*Drop-Out Analysis Results for Reported Prescription Behaviour at T0 and Reported Intended Prescription Behaviour at T1*

|  |  |  |
| --- | --- | --- |
| ***Time of measurement*** | **T0****(N = 300)** | **T1****(N = 300)** |
| ***General practitioners*** | **Non-Drop- Outs (n = 214)**(Mean ) | **Drop-Outs (n=86)**Mean  | ***p\*****(Cohen’s d)* | **Non-Drop- Outs(n = 214)**(Mean ) | **Drop-Outs (n=86)**Mean  | ***p\*****(Cohen’s d)* |
| Strong opioids | 22.58 | 22.56 | .985 (.00) | 22.3 | 21.84 | .731 (.04) |
| Nonsteriod anti-inflammatory drugs  | 86.15 | 85.05 | .569 (.08) | 86.38 | 85.34 | .585 (.08) |
| Weak opioids | 12.86 | 16.28 | .126 (.17) | 12.73 | 15.99 | .133 (.16) |
| Multimodal therapy | 17.39 | 16.94 | .798 (.07) | 18.07 | 17.87 | .915 (.02) |
| Physiotherapy, endurance sports | 67.61 | 65.87 | .522 (.08) | 68 | 66.74 | .611 (.06) |
| Psychotherapy | 29.51 | 26.47 | .338 (.13) | 30.27 | 27.22 | .350 (.12) |
| Means of opioid reduction | 26.78 | 23.84 | .327 (.13) | 27.82 | 24.9 | .346 (.12) |
| ***Pain specialists*** | **Non-Drop- Outs(n = 212)**(Mean ) | **Drop-Outs (n=88)**Mean  | ***p\*****(Cohen’s d)* | **Non-Drop- Outs(n = 212)**(Mean ) | **Drop-Outs (n=88)**Mean  | ***p\*****(Cohen’s d)* |
| Strong opioids | 26.22 | 28.3 | .149 (.18) | 25.91 | 27.78 | .197 (.16) |
| Nonsteriod anti-inflammatory drugs | 77.58 | 83.39 | .025 (.28) | 77.85 | 84.06 | .009 (.31) |
| Weak opioids | 15.54 | 13.51 | .194 (.17) | 15.22 | 12.93 | .129 (.19) |
| Multimodal therapy | 27.12 | 24.43 | .184 (.16) | 28.02 | 25.11 | .168 (.17) |
| Physiotherapy, endurance sports | 64.56 | 63.49 | .663 (.06) | 64.65 | 63.55 | .650 (.36) |
| Psychotherapy | 47.06 | 41.15 | .125 (.19) | 47.36 | 41.55 | .134 (.36) |
| Means of opioid reduction | 42.68 | 32.44 | .006 (.23) | 43.24 | 32.56 | .004 (.36) |

*Note.* \* Significance level is two-tailed and based on an independent t-test.