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**Supplementary file 3.** ROB 2 - Risk of Bias

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| **Unique ID** | 1 | **Study ID** | J. L. Castillo, 2011 | **Assessor** | R1/R2 |
| **Ref or Label** | | **Aim** | Adhering to intervention (the 'per-protocol' effect) | **The effect of adhering to intervention…** | Non-adherence of trial participants to their assigned intervention |
| **Experimental** | Silver Diamine Fluoride | **Comparator** | Sterile water | **Source** | Journal article(s) |
| **Outcome** | Reduction of pain (tooth sensitivity) | **Results** | | **Weight** | 1 |
| **Domain** | **Signaling question** | | | **Response** | **Comments** |
| **Bias arising from the randomization process** | 1.1 Was the allocation sequence random? | | | Y | No information on allocation method |
| | 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? | | | NI | |
| | 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? | | | N | |
| | **Risk of bias judgement** | | | **Some concerns** | |
| **Bias due to deviations from intended interventions** | 2.1 Were participants aware of their assigned intervention during the trial? | | | N | |
| | 2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? | | | PN | |
| | 2.3. [If applicable:] If Y/PY/NI to 2.1 or 2.2: Were important non-protocol interventions balanced across intervention groups? | | | NA | |

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| | 2.4. [If applicable:] Were there failures in implementing the intervention that could have affected the outcome? | NA | |
| | 2.5. [If applicable:] Was there non-adherence to the assigned intervention regimen that could have affected participants' outcomes? | NI | No information on non-adherence to intervention |
| | 2.6. If N/PN/NI to 2.3, or Y/PY/NI to 2.4 or 2.5: Was an appropriate analysis used to estimate the effect of adhering to the intervention? | Y | |
| | **Risk of bias judgement** | **Some concerns** | |
| **Bias due to missing outcome data** | 3.1 Were data for this outcome available for all, or nearly all participants randomized? | Y | |
| | 3.2 If N/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? | NA | |
| | 3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value? | NA | |
| | 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias in measurement of the outcome** | 4.1 Was the method of measuring the outcome inappropriate? | N | |
| | 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? | N | |
| | 4.3 Were outcome assessors aware of the intervention received by study participants? | PN | |
| | 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? | NA | |
| | 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias in selection of the reported result** | 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? | NI | Data don't make it clear |
| | 5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain? | PY | Data used VAS score and visual changes |

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| | 5.3 ... multiple eligible analyses of the data? | | | PN | |
| | **Risk of bias judgement** | | | **High** | |
| **Overall bias** | **Risk of bias judgement** | | | **High** | |
| **Unique ID** | 2 | **Study ID** | G.G. Craig, 2012 | **Assessor** | **R1/R2** |
| **Ref or Label** | | **Aim** | Adhering to intervention (the 'per-protocol' effect) | **The effect of adhering to intervention…** | Non-adherence of trial participants to their assigned intervention |
| **Experimental** | Silver Diamine Fluoride/potassium iodide | **Comparator** | Oxalic acid-based preparation | **Source** | Journal article(s) |
| **Outcome** | Reduction of pain (tooth sensitivity) | **Results** | | **Weight** | 1 |
| **Domain** | **Signaling question** | | | **Response** | **Comments** |
| **Bias arising from the randomization process** | 1.1 Was the allocation sequence random? | | | NI | The authors don't explain how the randomization was made |
| | 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? | | | PN | |
| | 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? | | | N | |
| | **Risk of bias judgement** | | | **High** | |
| **Bias due to deviations from intended interventions** | 2.1 Were participants aware of their assigned intervention during the trial? | | | PY | They didn't explain anything about taste and smell. The participants could have known. They don't explain if the interventionists knew what they were delivering. |
| | 2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? | | | PY | |
| | 2.3. [If applicable:] If Y/PY/NI to 2.1 or 2.2: Were important non-protocol interventions balanced across intervention groups? | | | NA | |
| | 2.4. [If applicable:] Were there failures in implementing the intervention that could have affected the outcome? | | | NA | |

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| | 2.5. [If applicable:] Was there non-adherence to the assigned intervention regimen that could have affected participants' outcomes? | PN | No information about non-adherence to the intervention. |
| | 2.6. If N/PN/NI to 2.3, or Y/PY/NI to 2.4 or 2.5: Was an appropriate analysis used to estimate the effect of adhering to the intervention? | NA | |
| | **Risk of bias judgement** | **High** | |
| **Bias due to missing outcome data** | 3.1 Were data for this outcome available for all, or nearly all participants randomized? | PY | |
| | 3.2 If N/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? | NA | |
| | 3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value? | NA | |
| | 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias in measurement of the outcome** | 4.1 Was the method of measuring the outcome inappropriate? | PN | They used the VAS scale for pain. |
| | 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? | Y | They used the VAS scale and visual changes for the second outcome. |
| | 4.3 Were outcome assessors aware of the intervention received by study participants? | NA | |
| | 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? | NA | |
| | 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? | NA | |
| | **Risk of bias judgement** | **High** | |
| **Bias in selection of the reported result** | 5.1 Were the data that produced this result in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? | PN | There was no information about on this topic. |
| | 5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain? | PY | They used VAS scoring and visual changes based on photographs |
| | 5.3 ... multiple eligible analyses of the data? | PN | |

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| | **Risk of bias judgement** | | | **High** | |
| **Overall bias** | **Risk of bias judgement** | | | **High** | |
| **Unique ID** | 3 | **Study ID** | N. Permata, 2018 | **Assessor** | **R1/R2** |
| **Ref or Label** | | **Aim** | Adhering to intervention (the 'per-protocol' effect) | **The effect of adhering to intervention…** | Non-adherence of trial participants to their assigned intervention |
| **Experimental** | Silver Diamine Fluoride | **Comparator** | Silver Diamine Fluoride followed by CO2 laser treatment | **Source** | Journal article(s) |
| **Outcome** | Compare the efficacy of silver diamine fluoride and CO2 laser in reducing the dentin hypersensitivity score | **Results** | | **Weight** | 1 |
| **Domain** | **Signaling question** | | | **Response** | **Comments** |
| **Bias arising from the randomization process** | 1.1 Was the allocation sequence random? | | | PY | No information on the method of randomization |
| | 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? | | | N | |
| | 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? | | | Y | The study was not statistically significant, since some results were p>0.05. |
| | **Risk of bias judgement** | | | **High** | |
| **Bias due to deviations from intended interventions** | 2.1 Were participants aware of their assigned intervention during the trial? | | | PY | Probably yes, because only one group applied a laser. Consequently, the participants knew which group they were from. Probably yes, because they needed to apply lasers only to one of the groups. |
| | 2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? | | | PY | |
| | 2.3. [If applicable:] If Y/PY/NI to 2.1 or 2.2: Were important non-protocol interventions balanced across intervention groups? | | | NA | |
| | 2.4. [If applicable:] Were there failures in implementing the intervention that could have affected the outcome? | | | NA | |

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|---|---|---|---|
| | 2.5. [If applicable:] Was there non-adherence to the assigned intervention regimen that could have affected participants' outcomes? | PN | No information on non-adherence to the intervention. |
| | 2.6. If N/PN/NI to 2.3, or Y/PY/NI to 2.4 or 2.5: Was an appropriate analysis used to estimate the effect of adhering to the intervention? | NA | |
| | **Risk of bias judgement** | **High** | |
| **Bias due to missing outcome data** | 3.1 Were data for this outcome available for all, or nearly all, participants randomized? | Y | |
| | 3.2 If N/PN/NI to 3.1: Is there evidence that the result was not biased by missing outcome data? | NA | |
| | 3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value? | NA | |
| | 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias in measurement of the outcome** | 4.1 Was the method of measuring the outcome inappropriate? | N | |
| | 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? | N | |
| | 4.3 Were outcome assessors aware of the intervention received by study participants? | Y | The assessors were aware. |
| | 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? | Y | Knowledge could have influenced the results |
| | 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? | Y | |
| | **Risk of bias judgement** | **High** | |
| **Bias in selection of the reported result** | 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? | PN | There was no information on this topic. |
| | 5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain? | Y | They used VAS for two types of stimuli (evaporative and thermal) and also DIAGNOdent. |
| | 5.3 ... multiple eligible analyses of the data? | PN | |
| | **Risk of bias judgement** | **High** | |
| **Overall bias** | **Risk of bias judgement** | **High** | |