Meta-analysis in RevMan 5.3: Contiunous data, introduction

The data:

Study	Intervention			Control		
	Mean	**SD**	**Total N**	**Mean**	**SD**	**Total N**
De Greef 2010	253	99	20	246	109	21
Perna 2010	25	13.1	25	14.2	11.8	25
Taylor 2006	33.1	2.3	35	34.8	6.2	34

Open **RevMan 5.3**

1. Click **File**, choose **New**
2. In the Wizard window, click **Next**
3. In the next window, make sure **Intervention review** is marked, click **Next**
4. In the next window, click **Full review** and **Finish**
5. Now you are in the review template where you can perform the meta-analysis. The first thing you need to do is to add the studies that you have extracted data from and that you want to enter into RevMan.
6. In the menu to the left, click **Studies and references**
7. In the **Text of Review Window**, find **Included studies** and click **Add study**
8. Write De Greef 2010 after **Study ID** and click **Next**
9. In the next window, you are asked to specify your **Data source**, in this case **Published data only (unpublished not sought)**. The drop-menu gives you other alternatives that you may use with your own data. **Click Finish**
10. Repeat steps 7-9 with Perna 2010 and Taylor 2006.
11. In the menu to the left, click **Data and analyses**
12. In the **Text of Review Window**, find **Data and analyses** and click **Add comparison**
13. Write **Intervention versus usual care** after **Name** and click **Next**
14. In the next window, mark **Add an outcome under the new comparison**, click **Continue**
15. In the next window, mark **Continuous** and click **Next**
16. Write **Physical activity** after **Name**, click **Next**
17. The next window asks you to specify your analysis method. As you can see, **Inverse Variance** is already marked under **Statistical method**. You need to decide whether you should use **a Fixed Effects** or **Random Effects Analysis model**, and whether you want **Mean Difference** or **Std. Mean Difference** as your **Effect Measure**
18. In this exercise, the best choices are a **Random Effects model** and **Std. Mean Difference Effect Measure. WHY???** Click **Next**
19. In the next window, you are asked to specify analysis details. In this exercise **Totals and Subtotals** and **95% Confidence intervals** are OK so click **Next**
20. The next window asks you to specify Graph details. Before you do anything else, think of the direction of the effect. Is higher or lower easier to understand in relation to the desired effect? In this exercise, a higher amount of physical activity is the desired effect, therefore write **Favours control** after **Left Graph Label** and **Favours Intervention** after **Right Graph Label**. You should also think about what would be a relevant scale in relation to your data and analysis methods. With Std. Mean Difference, 5 is enough. Change 100 to 5 and click Next
21. In the next window, mark **Add study data for the new outcome** and click **Continue**
22. Mark all three studies in the next window, click **Finish**
23. In the next window enter the data shown above.

Meta-analysis in RevMan 5.3: Contiunous data, exercise

Data on amount of physical activity were extracted from the studies below. The intervention, based on cognitvie behavioral methods, was compared to general health education. **Use the description of the studies as a basis for the choices you need to make when you set up RevMan for the meta-analysis**, following the steps described in the introduction.

Study	Population	Intervention	Outcome	Effect measure	Follow-up
Calfas 2000	Senior university students	15 wks+72 wks behavior change	Mod PA hrs/wk	Mean diff	Post intervention
McDermott 2013	Peripheral Artery Disease	24 wks cbt	Accelerometer activity units/wk	Mean diff	Post intervention
Schneider 2008	Older sedentary adults	12 wks cbt	MET-h/wk	Mean diff	9 mo post intervention
Stadler 2009	Adult women	1 session	Min/wk	Mean diff	4 mo post intervention
Taylor 2006	Prostate cancer	24 wks cb life style	Days wk ≥30 min activity	Mean diff	6 mo post intervention

Enter these data into RevMan:

Study	Intervention			Control		
	Mean	SD	Total N	Mean	SD	Total N
Calfas 2000	1.99	2	157	1.93	2	157
McDermott 2013	866.1	405.4	87	645	333.5	88
Schneider 2008	12.9	13.2	113	14.7	15.4	110
Stadler 2009	96.06	150.62	127	49.08	93.91	129
Taylor 2006	2.3	2	35	2.9	2.5	44

When you are done:

Which type of analysis did you choose (fixed effects model/random effects model)? WHY?

Which effect measure did you choose (mean difference/std. mean difference)? WHY?

What is the effect estimate?

What about heterogeneity – statistical, clinical (see description of included studies).

Try to formulate a few arguments for/against splitting/lumping studies based on the description in the upper table.