Cochrane Training

Quiz questions

Continuous outcomes: Understanding MD and SMD

Scenario

- You are reading a trial looking at SMS (text message) reminders to improve adherence of antiretroviral treatment compared to standard treatment among people living with HIV
- You need to interpret the findings on adherence at 6 months follow-up

Mean difference (MD) btw groups at 6 months follow up = 7.6

1) SMS reminders decrease adherence compared to standard care
2) SMS reminders affect adherence but it is not clear whether it increases or decreases adherence
3) SMS reminders increase adherence compared to standard care
4) SMS reminders do not affect adherence

Adherence was measured as a self-reported score from 0-100. MD=7.6

1) SMS reminders decrease adherence compared to standard care
2) SMS reminders affect adherence but it is not clear whether it increases or decreases adherence
3) SMS reminders increase adherence compared to standard care
4) SMS reminders do not affect adherence

The scale measures adherence from non-adherent (0) to adherent all the time (100). MD=7.6

1) SMS reminders decrease adherence compared to standard care
2) SMS reminders affect adherence but it is not clear whether it increases or decreases adherence
3) SMS reminders increase adherence compared to standard care
4) SMS reminders do not affect adherence

What additional information do we need to interpret the result?

1) The scale used to measure adherence
2) The length of the scale
3) The direction of the scale
4) All of the above

How would you describe MD of 7.6 between groups?

1) The intervention makes a small difference in adherence compared to standard care
2) The intervention makes a large difference in adherence compared to standard care
3) The intervention makes a trivial difference in adherence compared to standard care
4) It is unclear whether this is a trivial, small or large difference in adherence

A second study on the same topic used a 6-item self-report measure for adherence and reports a MD of 1.32 at 6-months follow-up. To combine the data in a meta-analysis, you:

1) Pool the MDs of both studies
2) Convert the MDs to standardised mean differences (SMD)
3) Don’t combine the data in a meta-analysis
4) Any of the above

You find two additional studies that used the same tool to measure adherence. One study reports the MD at 6-months follow-up, the other reports the difference in change from baseline to 6-months follow-up. To combine the data of these two studies, you:

1) You don’t pool the data in a meta-analysis
2) You convert the MDs to SMDs to pool the data
3) You pool the follow-up score and the change score with an MD
4) You introduce subgroups of follow-up scores and change scores

You find two additional studies that used a different tool to measure adherence. One study reports the MD at 6-months follow-up, the other reports the difference in change from baseline to 6-months follow-up. To combine the data of these two studies, you:

1) You don’t pool the data in a meta-analysis
2) You convert the MDs to SMDs to pool the data
3) You pool the follow-up score and the change score
4) You introduce subgroups of follow-up scores and change scores

Why are you not able to the pool data for these two studies?

1) You can’t introduce this type of subgroup
2) You can’t pool MDs of follow-up data and change data
3) You can’t convert a MD of change into a SMD
4) You can’t pool SMDs of follow-up data and change data