

PICO 2: Hvad er effekten af gruppebaseret sygdomsspecifik patientuddannelse og diætbehandlingsforløb over for et sammenligneligt, men individuelt tilrettelagt forløb tilbudt patienter med type 2 diabetes?

Methods

Criteria for considering studies for this review

Types of outcome measures

Primary outcomes

HbA1c \geq 1 år - kritisk

Livskvalitet (QoL) – længste follow-up - kritisk (NB! SF-36 scores for fysisk score og mental score)

Secondary outcomes

Følgende sekundære outcomes er vurderet vigtige

BMI \geq 1 år

BMI $<$ 1 år

Vægt \geq 1 år

HbA1c $<$ 1 år

LDL $=<$ 1 år

Sundhedsadfærd \geq 1 år

Komplikationer \geq 1 år

Hjertekarsygdom \geq 1 år

Frafaldsrate - efter endt forløb

Characteristics of studies

Characteristics of included studies

Campbell 1996

<p>Methods</p>	<p>Study design: Randomized controlled trial Study grouping: Parallel group Open Label: Cluster RCT:</p>
<p>Participants</p>	<p>Baseline Characteristics group education</p> <ul style="list-style-type: none"> ● <i>Age yrs (SE):</i> 58.4 (1.4) ● <i>females%:</i> 47 ● <i>diabetes duration yrs (SE):</i> 0.4 (0.1) ● <i>number:</i> 65 ● <i>HbA1c%:</i> 12.1 (0.6) <p>individual education</p> <ul style="list-style-type: none"> ● <i>Age yrs (SE):</i> 56.8 (1.5) ● <i>females%:</i> 42 ● <i>diabetes duration yrs (SE):</i> 0.9 (0.2) ● <i>number:</i> 57 ● <i>HbA1c%:</i> 12.2 (0.5) <p>Included criteria: Patients were considered eligible at ascreening interview if they were less than 80 years old; hadbeen diagnosed with NIDDM for less than 5 years; were ableto speak, read, and understand English; had received noprevious formal instruction in diabetes care; were not takingover 75% of the maximum dosage of oral hypoglycemicagents; and did not have a terminal illness. Excluded criteria: no terminal illness</p>
<p>Interventions</p>	<p>Intervention Characteristics group education</p> <ul style="list-style-type: none"> ● <i>sessions:</i> This program consisted of atleast two individual sessions and a 3-day small group educationcourse. Individual monthly sessions were continued untila course could be scheduled. The 3-day course involvedlectures,

	<p>small group exercises, and practical sessions (eg, food selection) and included all of the topics covered in the other programs. Sessions were delivered by a nurse educator, dietitian, occupational therapist, and podiatrist. Two-hour group follow-ups were scheduled at 3 and 9 months after the course. Patients also were given the opportunity to attend a single 2-hour diet lecture prior to the course.</p> <p>individual education</p> <ul style="list-style-type: none"> ● <i>sessions:</i> This program consisted of two sessions that were conducted within 2 weeks of referral, then sessions scheduled approximately monthly until 12 months from the initial visit. The two initial sessions with a nurse and dietitian, respectively, were for 1 hour and subsequent sessions with the nurse were for 30 minutes. Topics were explored in more detail than for the minimal program and included information on the causes, symptoms, mechanisms, and complications of diabetes. Patients also were given the opportunity to attend a single 2-hour lecture on diet that was delivered to a group.
<p>Outcomes</p>	<p><i>Continuous:</i></p> <ul style="list-style-type: none"> ● HbA1c% ● BMI ● vægt (kg) ● LDL ● HbA1c% ● BMI ● vægt (kg) ● LDL <p><i>Dichotomous:</i></p> <ul style="list-style-type: none"> ● frafald
<p>Identification</p>	<p>Sponsorship source: This study was supported by a grant from the National Health and Medical Research Council.</p> <p>Country: Australia</p> <p>Setting: Diabetes Education Service</p> <p>Comments:</p> <p>Authors name: ELIZABETH M. CAMPBELL.</p> <p>Institution: From the Discipline of Behavioural Science in Relation to Medicine (Drs Campbell, Redman, and Sanson-Fisher). University of Newcastle, and the Diabetes Education Service (Dr Moffitt). Newcastle, Australia.</p> <p>Email: not indicated</p>

	<p>Address: Hunter Center for Health Advancement, Locked Bag 10, WallSEND 2287, Australia</p> <p>Notes</p> <p>Identification:</p> <p>Participants:</p> <p>Study design:</p> <p>Baseline characteristics: <i>Ole Snorgaard</i> Note patients are relatively newly diagnosed HbA1c value not standard <i>Ole Snorgaard</i> Note patients are relatively newly diagnosed</p> <p>Intervention characteristics:</p> <p>Pretreatment:</p> <p>Continuous outcomes:</p> <p>Dichotomous outcomes: <i>Ole Snorgaard</i> frafald efter 12 mdr <i>Ole Snorgaard</i> frafald efter 12 mdr</p> <p>Adverse outcomes:</p>
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Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Not described
Allocation concealment (selection bias)	Unclear risk	-
Blinding of participants and personnel (performance bias)	High risk	-
Blinding of outcome assessment (detection bias)	Low risk	-
Incomplete outcome data (attrition bias)	High risk	Large dropout, no Intention to Treat
Selective reporting (reporting bias)	Unclear risk	-
Other bias	Unclear risk	mostly newly diagnosed patients therefore probably difficult to show any difference

Kulzer 2007

	<p>Study design: Randomized controlled trial</p> <p>Study grouping: Parallel group</p> <p>Open Label:</p> <p>Cluster RCT:</p>
<p>Participants</p>	<p>Baseline Characteristics</p> <p>group education</p> <ul style="list-style-type: none"> ● <i>Age yrs (SD):</i> 56.6 (6.7) ● <i>females %:</i> 46.4 ● <i>diabetes duration yrs (SD):</i> 6.4 (6.1) ● <i>number:</i> 63 <p>individuel education</p> <ul style="list-style-type: none"> ● <i>Age yrs (SD):</i> 55.4 (6.5) ● <i>females %:</i> 48.4 ● <i>diabetes duration yrs (SD):</i> 7.2 (6.5) ● <i>number:</i> 66 <p>Included criteria: Type 2 diabetes, 40-65 of age, no insulin treatment, C-peptide > 0.8 nmol/l, BMI > 26.7 no acute psychiatric illness, German speaking</p> <p>Excluded criteria: none indicated</p>
<p>Interventions</p>	<p>Intervention Characteristics</p> <p>group education</p> <ul style="list-style-type: none"> ● <i>sessions:</i> 12 Group sessions, 90 min each <p>individuel education</p> <ul style="list-style-type: none"> ● <i>sessions:</i> 6 individuel and 6 Group sessions
<p>Outcomes</p>	<p><i>Continuous:</i></p> <ul style="list-style-type: none"> ● HbA1c % ● BMI ● vægt (kg) ● LDL

	<p><i>Dichotomous:</i></p> <ul style="list-style-type: none"> ● ifrafald
<p>Identification</p>	<p>Sponsorship source: the study was funded by German Federal Bureau for Research and Technology. Lilly GmbH, and GlaxoSmith Kline GmbH supported education of staff</p> <p>Country: Germany</p> <p>Setting: Research Institute of the Diabetes Academy Mergentheim and University of Bamberg</p> <p>Comments:</p> <p>Authors name: Kulzer</p> <p>Institution: Research Institute of Diabetes Academy Mergentheim</p> <p>Email: kulzer@diabetes-zentrum.de</p> <p>Address: FIDAM, PO Box 1144, D.97961 Bad Mergentheim</p>
<p>Notes</p>	<p>Identification:</p> <p>Participants:</p> <p>Study design:</p> <p>Baseline characteristics:</p> <p>Intervention characteristics:</p> <p>Pretreatment:</p> <p>Continuous outcomes:</p> <p>Dichotomous outcomes:</p> <p>Adverse outcomes:</p>

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Comment: Were randomly allocated sequentially to the three treatments by Department of Biometry of the University of Heidelberg
Allocation concealment (selection bias)	Unclear risk	Comment: there is no information about concealing the allocation sequence,
Blinding of participants and personnel (performance bias)	High risk	Comment: Impossible to blind to participants or personnel

Blinding of outcome assessment (detection bias)	Low risk	Quote: "Regardless of the treatment group to which each subject was rand - only assigned, these physicians were given a standardized information form about the results of both the physical examination and laboratory tests." Comment: Weight was measured by staff members blinded to the treatment Group of the subjects.
Incomplete outcome data (attrition bias)	Low risk	Comment: Diagram of patient flow gives information about numbers, completed and reasons for not completing, and lost to follow-up Quote: "We performed an intention-to-treat analysis carrying last observation forward for individuals who were lost to follow- up."
Selective reporting (reporting bias)	Unclear risk	-
Other bias	High risk	Comment: Baseline HbA1c is not given in absolute numbers, it looks like group A is lower at baseline (must influence results). Also I cannot find absolute values only changes in HbA1c. Also a problem that two variables are addressed not just type of intervention/education but also length. Whether the effect is attributable to both or just one of the factors is not really possible to state,

Sperl Hillen 2011

<p>Methods</p> <p>Study design: Randomized controlled trial Study grouping: Parallel group Open Label: Cluster RCT:</p>	<p>Baseline Characteristics</p> <p>group</p> <ul style="list-style-type: none"> ● female gender: 51,0% ● duration of diabetes: 10.7 (6.9) ● age: 61.2 (11.8) ● BMI: 34.4 (7.0) <p>Individual</p> <ul style="list-style-type: none"> ● female gender: 49,6% ● duration of diabetes: 11.9 (8.2)
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	<ul style="list-style-type: none"> ● <i>age</i>: 61.6 (10.9) ● <i>BMI</i>: 34.4 (8.0) <p>Included criteria: Adults with type 2 diabetes with HbA1c 7% or higher Excluded criteria: not indicated</p>
Interventions	<p>Intervention Characteristics</p> <p>group</p> <ul style="list-style-type: none"> ● <i>sessions</i>: Four 2-hour sessions at 1 week intervals <p>Individual</p> <ul style="list-style-type: none"> ● <i>sessions</i>: 3 individual 1 hour sessions within 1 month
Outcomes	<p><i>Continuous</i>:</p> <ul style="list-style-type: none"> ● HbA1c ● vægt <p><i>Dichotomous</i>:</p> <ul style="list-style-type: none"> ● frafald
Identification	<p>Sponsorship source: This study was funded by Merck and Co Inc, North Wales, Pennsylvania. Dr Sperl-Hillen has received research support administered through HealthPartners Research Foundation for clinical trials. Dr Spain is a full-time employee of and owns stock in Merck and Co Inc.</p> <p>Country: USA</p> <p>Setting: ABQ Health Partners, New Mexico and HealthPartners Medical Group, Minnesota</p> <p>Comments:</p> <p>Authors name: JoAnn Sperl-Hillen</p> <p>Institution: HealthPartner Research Foundation</p> <p>Email: joann.m.sperhillen@healthpartners.com</p> <p>Address: 8170 33rd Ave S, MS 21111R, Minneapolis</p>
Notes	<p>Identification:</p> <p>Participants:</p> <p>Study design:</p> <p>Baseline characteristics:</p> <p>Intervention characteristics:</p>

<p>Pretreatment: Continuous outcomes: <i>Elisabeth Ginnerup-Nielsen</i> Der er ikke opgjvet sd'er men kun (eksakte) p-værdier opgjvet i tabel 3 i Sperl-Hillen Dichotomous outcomes: Adverse outcomes:</p>
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Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Comment: were randomly assigned using a computer-generated random allocation sequence to each Group at each study site
Allocation concealment (selection bias)	Low risk	Comment: computer-generatedBut unclear how allocation concealment was blinded
Blinding of participants and personnel (performance bias)	High risk	Comment: impossible to blind interventions to patients or personnel
Blinding of outcome assessment (detection bias)	Low risk	Comment: It seems as though all outcome is assessed in surveys by the patients. Outcome assessor not relevant.
Incomplete outcome data (attrition bias)	Low risk	Quote: "Intention-to-treat principles were used to test a priori hypotheses. Baseline values (no change) were assigned to subjects missing values post random- ization." Comment: Individual education group had more extra visits and more were completers. However, analysis restricted to completers did not change tehe results
Selective reporting (reporting bias)	Low risk	Quote: "clinicaltrials.gov Identifier: NCT00652509"
Other bias	Unclear risk	Quote: "Role of the Sponsors: The project has been observed from the beginning by project managers from Merck and Co Inc US Outcomes Research Division. The cur- rent project manager is C. Victor Spain, DVM, PhD, an author of this article. Dr Spain has been involved through phone meetings twice a month in the manage- ment, analysis, and interpretation of the data;" Comment: Nonadherence and proportion of completers may be associated to the primary outcome.

Trento 2001

	<p>Study design: Randomized controlled trial Study grouping: Parallel group Open Label: Cluster RCT:</p>
<p>Participants</p>	<p>Baseline Characteristics group education</p> <ul style="list-style-type: none"> ● <i>Age yrs (SE):</i> 62(35-80) ● <i>females%:</i> 29/56 ● <i>diabetes duration yrs (SE):</i> 9.4(1-23) ● <i>number:</i> 56 ● <i>HbA1c%:</i> 7.4 (1.4) <p>individual education</p> <ul style="list-style-type: none"> ● <i>Age yrs (SE):</i> 61(43-78) ● <i>females%:</i> 22/56 ● <i>diabetes duration yrs (SE):</i> 9.8(1-39) ● <i>number:</i> 56 ● <i>HbA1c%:</i> 7.5 (1.4) <p>Included criteria: Patients with type 2 diabetes, treated either with diet alone or with diet and oral administration of hypoglycemic agents, WHO had attendet the klinik for at least 1 year . Excluded criteria: No exclusion criteria descriptet</p>
<p>Interventions</p>	<p>Intervention Characteristics group education</p> <ul style="list-style-type: none"> ● <i>sessions:</i> setting goals followed by 4 Group sessions. Each session consisted of introduction, interactive learning, patients experience and conclusion/homework.Rutine consultation every 3 months <p>individual education</p> <ul style="list-style-type: none"> ● <i>sessions:</i> Individual education by the same educators and same rutine consultations

<p>Outcomes</p>	<p><i>Continuous:</i></p> <ul style="list-style-type: none"> ● BMI ● vægt (kg) ● HbA1c% ● LDL ● QoL (DCCT mod score) ● Health score conduct ● BMI ● HbA1c% ● LDL ● vægt (kg) <p><i>Dichotomous:</i></p> <ul style="list-style-type: none"> ● frafald
<p>Identification</p>	<p>Sponsorship source: Grants from Turin University</p> <p>Country: Italy</p> <p>Setting: hospital outpatient clinics</p> <p>Comments:</p> <p>Authors name: Trento M</p> <p>Institution: Department of Internal Medicine Turin, Italy</p> <p>Email: massimo.porta@unito.it</p> <p>Address: Department of Internal Medicine, Turin University hospital, Italy</p>
<p>Notes</p>	<p>Identification:</p> <p>Participants: <i>Elsebeth Schmith A</i> total of 112 patients were enrolled in the study after giving informed consent. After randomization by random table numbers, 56 patients were assigned to six Groups of 9 or 10 persons, whereas the other 56 (control subjects) continued with traditional consultations.</p> <p>Study design:</p> <p>Baseline characteristics:</p> <p>Intervention characteristics: <i>Elsebeth Schmith</i> Group education: In every session, one or two physicians and the educationist acted as facilitators of the group activity. The Group program was based on a systemic education approach including observation and</p>

	<p>assessment of educational needs (educational diagnosis) definition of specific goals, Development of session procedure and program, evaluation of the learning process, and overall assessment of clinical outcomes and efficacy of the intervention. s. 996 Control patients: were seen by the same physicians in charge of Group consultations. Physicians did not know which patients in the Clinic served as control subjects for this study. Patients were asked to complete the same weekly diaries of body weight and Nutrition as the Group patients. they received individual education sessions from the same educator involved in the Group activities, with special reference to proper eating habits, home monitoring of blood glucose level, and prevention of complications.</p> <p>Pretreatment:</p> <p>Continuous outcomes:</p> <p>Dichotomous outcomes:</p> <p>Adverse outcomes:</p> <p><i>Elsabeth Schmith</i> No differences were noted between the patients Who continued follow-up and those Who left the study (for any reason). The patients seen in Groups completed an average of 7.9 visits (range 7-8) during the 2 years, the control subjects completed 8.2 visits (range 5-11).</p>
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Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	-
Allocation concealment (selection bias)	Low risk	-
Blinding of participants and personnel (performance bias)	Low risk	physicians blinded, Blinding of patients not possible (probably only high risk in QOL measures)
Blinding of outcome assessment (detection bias)	Unclear risk	Unclear for QOL measures, but low for biochemical values
Incomplete outcome data (attrition bias)	Unclear risk	high but equal dropout but no it
Selective reporting (reporting bias)	Unclear risk	not indicated
Other bias	Low risk	Others discuss other possible bias

Vadstrup 2011

<p>Methods</p>	<p>Study design: Randomized controlled trial Study grouping: Parallel group Open Label: Cluster RCT:</p>
<p>Participants</p>	<p>Baseline Characteristics Intervention (group).</p> <ul style="list-style-type: none"> ● <i>male</i> %: 59 ● <i>Age, years</i>: 58.5 (9 sd) ● <i>HbA1c</i>: 7.9 (0.8 sd) ● <i>weight kg</i>: 96.2 (15.2 sd) ● <i>Insulin</i> %: 13 (19) ● <i>No antidiabetic drugs</i> %: 9 (13) ● <i>OAD only</i>: 48 (68%) ● <i>Retinopathy</i>: 4 (6%) ● <i>Peripheral neuropathy</i>: 28 (40 %) ● <i>Diabetes duration, years</i>: 6.7 <p>control (individual).</p> <ul style="list-style-type: none"> ● <i>male</i> %: 60 ● <i>Age, years</i>: 58.0 (10.3) ● <i>HbA1c</i>: 7.8 (0.9) ● <i>weight kg</i>: 98.2 (24.8) ● <i>Insulin</i> %: 10 (14) ● <i>No antidiabetic drugs</i> %: 17 (23) ● <i>OAD only</i>: 46 (63%) ● <i>Retinopathy</i>: 3 (4%) ● <i>Peripheral neuropathy</i>: 24 (33) ● <i>Diabetes duration, years</i>: 6.4 <p>Included criteria: Known or newly diagnosed type 2 diabetes, baseline HbA1c value between 6.8% and 10.0%, and ability to read and understand the Danish language Excluded criteria: age less than 18 years, severe heart, liver or kidney disease, foot ulcers, and incurable cancer.</p>

<p>Interventions</p>	<p>Intervention Characteristics Intervention (group).</p> <ul style="list-style-type: none"> ● <i>Description</i> : The programme consisted of an educational component of 90-minutes group sessions held weekly for a total of six weeks. Sessions were limited to eight patients and were taught by a nurse, a physiotherapist, a podiatrist, and a dietician. The educational curriculum included: the pathophysiology of diabetes, blood glucose self-monitoring, dietary instructions, the importance of physical activity, weight loss and smoking cessation, neuropathy, foot examinations, hypertension, complications, and medications [18]. A 12-week supervised exercise component consisted of 90-minutes sessions twice a week that included both aerobic and resistance exercise. The sessions were group-based, but a physiotherapist tailored an individual exercise programme for each patient. Dietary education included two three-hour group-based cooking classes and one two-hour session in a local supermarket. <p>control (individual).</p> <ul style="list-style-type: none"> ● <i>Description</i> : The programme consisted of individual consultations with a diabetes nurse specialist, a dietician, and a podiatrist over a period of six months. All patients consulted the same nurse and dietician. Patients participated in four one-hour sessions of individual counselling with a diabetes nurse specialist, who had a bachelor's degree in education and was trained in motivational interviewing [19]. Using the patients' own stories patients received personalized information and guidance about type 2 diabetes, medications, risk factors, and late complications, blood-glucose self-monitoring, and increasing physical activity to the recommended level of 30 minutes of daily exercise. Over the same time period, patients participated in three individual counselling sessions with a dietician who was also trained in motivational interviewing [18]. At the initial hour-long visit, patients set personal goals and, in collaboration with the dietician, developed a dietary plan based on biochemical, anthropometrical, and medical records and patients' motivation and attitudes.
<p>Outcomes</p>	<p><i>Continuous:</i></p> <ul style="list-style-type: none"> ● HbA1c ● Vægt (Weight) ● LDL ● HQOL SF36 Physical function 0-100 higher = better ● HQOL sf36 Limitation due to physical problems ● HQOL sf36 Bodily pain ● HQOL sf36 General health ● HQOL sf36 Vitality

	<ul style="list-style-type: none"> ● HQOL sf36 Social functioning ● HQOL sf36 Limitation due to emotional problems ● HQOL sf36 Mental health ● anti diabetic med. ● BMI <p><i>Dichotomous:</i></p> <ul style="list-style-type: none"> ● frafald (dropout) ● Hjertekarsygdom (Cardiovasc. disorders) ● Komplikationer (complications)
<p>Identification</p>	<p>Sponsorship source: The study was supported by grants from the Jascha Foundation, the Research Foundation of Bispebjerg Hospital, the Copenhagen Capital Region Research Foundation, the National Board of Health, the Ministry of Health and Prevention, GlaxoSmithKline, Servier Denmark, Department of Endocrinology at Bispebjerg University Hospital.</p> <p>Country: Denmark</p> <p>Setting: Bispebjerg University Hospital, Østerbro Health Center</p> <p>Comments: non of the fundings participated in the study</p> <p>Authors name: Eva S Vadstrup et al</p> <p>Institution: Department of Endocrinology and Gastroenterology, Bispebjerg University Hospital, Copenhagen, Denmark</p> <p>Email: eva.vadstrup@gmail.com</p> <p>Address:</p>
<p>Notes</p>	<p>Identification:</p> <p>Participants:</p> <p>Study design:</p> <p>Baseline characteristics:</p> <p>Intervention characteristics:</p> <p>Pretreatment:</p> <p>Continuous outcomes:</p> <p><i>Elisabeth Ginnerup-Nielsen</i> sf 36: 0-100 scale higher=better Af en eller anden grund vil den ikke gemme outcomes with confidence intervals (mean change) (Fordi værdierne er negative) HbA1c intervention (group rehab) change: -0.3 (-0.5 to -0.1) control group change: -0.6 (-0.8 to -0.4) LDL intervention; -0.1 (-0.2 to 0.1) control: -0.1 (-0.3 to 0.1) Weight intervention (group rehab) change: -2.1 (-3.0 to -1.3) control group change: -2.0 (-2.8 to -1.1)</p> <p><i>Ole Snorgaard</i> Change in HbA1c, Weight and LDL are decline from baseline values</p>

Dichotomous outcomes:
Adverse outcomes:

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "a randomisation list. The investigator randomised and stratified the patients at the baseline visit using consecutively numbered"
Allocation concealment (selection bias)	Low risk	Quote: "sealed envelopes marked with gender (male or female) and age" Comment: a person unrelated to the study created randomisation list
Blinding of participants and personnel (performance bias)	High risk	Quote: "Neither patients nor study personnel were blinded to treatment assignment." Comment: One critical outcome (HQOL) is selfreported
Blinding of outcome assessment (detection bias)	Unclear risk	Comment: Outcome assessors probably not blinded but outcome either selfadministered or objective
Incomplete outcome data (attrition bias)	Low risk	Quote: "When the analysis was repeated as an intention-to-treat analysis the number of comparisons used only increased from 107 to 119 and all results on health-related quality of life and self-rated health remained unchanged." Comment: 61 out of 70 against 60 out of 73 completed. Reasons were indicated
Selective reporting (reporting bias)	Low risk	Quote: "protocol. ClinicalTrials.gov registra- tion number: NCT002844609." Comment: relevant outcome assessed in protocol
Other bias	High risk	Quote: "The study was supported by grants from the Jascha Foundation, the Research Foundation of Bispebjerg Hospital, the Copenhagen Capital Region Research Foundation, the National Board of Health, the Ministry of Health and Prevention, GlaxoSmithKline, Servier Denmark, Department of Endocrinology at Bispebjerg University Hospital." Comment: Different setting and different personnel hours used in the two groupsUnclear role of funding

Footnotes

Characteristics of excluded studies

Duke 2009

Reason for exclusion	meta-analysis
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Lau 2011

Reason for exclusion	Wrong patient population
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Nilsen 2011

Reason for exclusion	Wrong patient population
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Redmon 2010

Reason for exclusion	Wrong intervention
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Sagarra 2014

Reason for exclusion	Wrong patient population
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Sperl Hillen 2011a

Reason for exclusion	doublet, only abstract
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Sperl Hillen 2012

Reason for exclusion	doublet, only abstract
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Sperl Hillen 2013

Reason for exclusion	follow-up study
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Vadstrup 2011a

Reason for exclusion	not original study
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VanRooijen 2010

Reason for exclusion	Wrong comparator
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Wing 2013

Reason for exclusion	Wrong intervention
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Footnotes

Characteristics of studies awaiting classification

Footnotes

Characteristics of ongoing studies

Footnotes

Summary of findings tables

Additional tables

References to studies

Included studies

Campbell 1996

Campbell EM, Redman S, Moffitt PS, Sanson-Fisher RW. The relative effectiveness of educational and behavioral instruction programs for patients with NIDDM: a randomized trial.. *Diabetes Educator* 1996;22(4):379-86. [DOI:]

Kulzer 2007

Kulzer B, Hermanns N, Reinecker H, Haak T. Effects of self-management training in Type 2 diabetes: a randomized, prospective trial.. *Diabetic Medicine* 2007;24(4):415-23. [DOI:]

Sperl Hillen 2011

Sperl-Hillen J, Beaton S, Fernandes O, Von Worley A, Vazquez-Benitez G, Parker E, et al.. Comparative effectiveness of patient education methods for type 2 diabetes: a randomized controlled trial.. *Archives of Internal Medicine* 2011;171(22):2001-10. [DOI: <http://dx.doi.org/10.1001/archinternmed.2011.507>]

Trento 2001

Trento M, Passera P, Tomalino M, Bajardi M, Pomero F, Allione A, et al.. Group visits improve metabolic control in type 2 diabetes: a 2-year follow-up.. *Diabetes care* 2001;24(6):995-1000. [DOI:]

Vadstrup 2011

Vadstrup ES, Frølich A, Perrild H, Borg E, Roder M. Health-related quality of life and self-related health in patients with type 2 diabetes: effects of group-based rehabilitation versus individual counselling.. *Health & Quality of Life Outcomes* 2011;9:110. [DOI: <http://dx.doi.org/10.1186/1477-7525-9-110>]

Excluded studies

Duke 2009

Duke S. A.; Colagiuri S.; Colagiuri R.. Individual patient education for people with type 2 diabetes mellitus. *Cochrane Database of Systematic Reviews* 2009;(1):005268. [DOI: <http://dx.doi.org/10.1002/14651858.CD005268.pub2>]

Lau 2011

Lau, C.; Vistisen, D.; Toft, U.; Tetens, I.; Glumer, C.; Pedersen, O.; Jorgensen, T.; Borch-Johnsen, K.. The effects of adding group-based lifestyle counselling to individual counselling on changes in plasma glucose levels in a randomized controlled trial: the Inter99 study.. *Diabetes & metabolism* 2011;37(6):546-552. [DOI: <http://dx.doi.org/10.1016/j.diabet.2011.06.001>]

Nilsen 2011

Nilsen, V.; Bakke, P. S.; Gallefoss, F.. Effects of lifestyle intervention in persons at risk for type 2 diabetes mellitus - results from a randomised, controlled trial.. *BMC Public Health* 2011;11(Journal Article):893. [DOI: <http://dx.doi.org/10.1186/1471-2458-11-893>]

Redmon 2010

Redmon, J. B.; Bertoni, A. G.; Connelly, S.; Feeney, P. A.; Glasser, S. P.; Glick, H.; Greenway, F.; Hesson, L. A.; Lawlor, M. S.; Montez, M.; Montgomery, B.; Look AHEAD Research, Group. Effect of the look AHEAD study intervention on medication use and related cost to treat cardiovascular disease risk factors in individuals with type 2 diabetes.. *Diabetes care* 2010;33(6):1153-1158. [DOI: <http://dx.doi.org/10.2337/dc09-2090>]

Sagarra 2014

Sagarra R. Costa B. Cabre J.J. Sola-Morales O. Barrio F. el Grupo de Investigacion DE-PLAN-CAT/PREDICE. Lifestyle interventions for diabetes mellitus type 2 prevention.. *Revista clinica espanola* 2014;214(2):59-68. [DOI: <http://dx.doi.org/10.1016/j.rce.2013.10.005>]

Sperl Hillen 2011a

Sperl-Hillen, J.; Beaton, S.; Fernandes, O.; Von Worley, A.; Parker, E.; Hanson, A.; Lavin-Tompkins, J.; Glasrud, P.; Davis, H.; Adams, K.; Parsons, W.. A comparison of group and individual education for patients with sub-optimally controlled type 2 diabetes: A randomized controlled trial.. *Diabetes* 2011;60(Journal Article):A64. [DOI: <http://dx.doi.org/10.2337/db11-1-378>]

Sperl Hillen 2012

Sperl-Hillen, J.; Beaton, S.; Fernandes, O.; Von Worley, A.; Vazquez-Benitez, G.; Hanson, A.; Lavin-Tompkins, J.; Parsons, W.; Adams, K.; Spain, C. V.. Are outcomes from diabetes self-management education sustained? A randomized controlled trial.. *Diabetes* 2012;61(Journal Article):A169. [DOI: <http://dx.doi.org/10.2337/db12-656-835>]

Sperl Hillen 2013

Sperl-Hillen, J.; Beaton, S.; Fernandes, O.; Von Worley, A.; Vazquez-Benitez, G.; Hanson, A.; Lavin-Tompkins, J.; Parsons, W.; Adams, K.; Spain, C. V.. Are benefits from diabetes self-management education sustained?.. *American Journal of Managed Care* 2013;19(2):104-112. [DOI:]

Vadstrup 2011a

Vadstrup, E. S.; Frollich, A.; Perrild, H.; Borg, E.; Roder, M.. Effect of a group-based rehabilitation programme on glycaemic control and cardiovascular risk factors in type 2 diabetes patients: the Copenhagen Type 2 Diabetes Rehabilitation Project.. Patient Education & Counseling 2011;84(2):185-190. [DOI: <http://dx.doi.org/10.1016/j.pec.2010.06.031>]

VanRooijen 2010

Van Rooijen, A.J.; Christa, M. V.; Piet, J. B.. A daily physical activity and diet intervention for individuals with type 2 diabetes mellitus: a randomized controlled trial. South African Journal of Physiotherapy 2010;66(2):9-16. [DOI:]

Wing 2013

Wing, R. R.; Bolin, P.; Brancati, F. L.; Bray, G. A.; Clark, J. M.; Coday, M.; Crow, R. S.; Curtis, J. M.; Egan, C. M.; Espeland, M. A.; Evans, M.; Foreyt, J. P.; Ghazarian, S.; Gregg, E. W.; Harrison, B.; Hazuda, H. P.; Hill, J. O.; Horton, E. S.; Johnson, K. C.; Jeffery, R. W.; Johnson, K. C.; Kahn, S. E.; Kitabchi, A. E.; Knowler, W. C.; Lewis, C. E.; Maschak-Carey, B. J.; Montez, M. G.; Murrillo, A.; Nathan, D. M.; Patricio, J.; Peters, A.; Pi-Sunyer, X.; Pownall, H.; Reboussin, D.; Regensteiner, J. G.; Rickman, A. D.; Ryan, D. H.; Safford, M.; Wadden, T. A.; Wagenknecht, L. E.; West, D. S.; Williamson, D. F.; Yanovski, S. Z.. Cardiovascular effects of intensive lifestyle intervention in type 2 diabetes.. New England Journal of Medicine 2013;369(2):145-154. [DOI: <http://dx.doi.org/10.1056/NEJMoa1212914>]

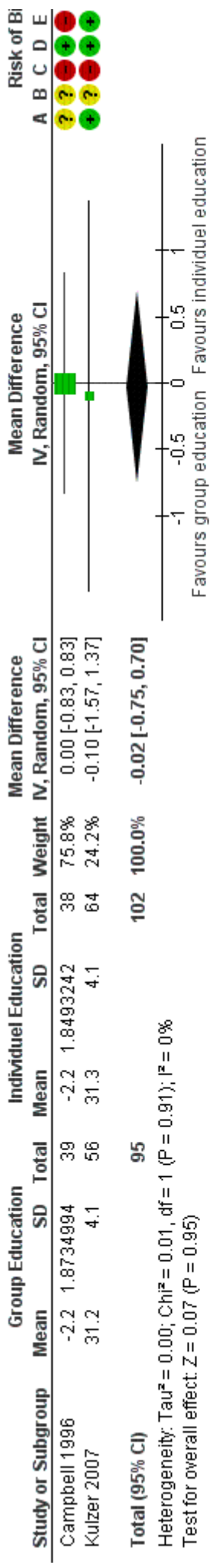
Studies awaiting classification**Ongoing studies****Other references****Additional references****Other published versions of this review****Data and analyses****1 Gruppe vs Individuelt rehabiliteringsforløb**

Outcome or Subgroup	Studies	Participants	Statistical Method	Effect Estimate
1.1 BMI < 1 år	2	197	Mean Difference (IV, Random, 95% CI)	-0.02 [-0.75, 0.70]

1.2 BMI >= 1 år	3	265	Mean Difference (IV, Random, 95% CI)	0.47 [-0.47, 1.40]
1.3 Vægt < 1 år	2	610	Mean Difference (IV, Random, 95% CI)	0.07 [-0.54, 0.69]
1.4 Vægt >= 1 år	1	90	Mean Difference (IV, Random, 95% CI)	-1.10 [-6.91, 4.71]
1.5 HbA1c % < 1 år	4	786	Mean Difference (IV, Random, 95% CI)	0.25 [0.07, 0.43]
1.6 HbA1c % >= 1 år	4	743	Mean Difference (IV, Random, 95% CI)	-0.22 [-0.65, 0.21]
1.7 LDL <= 1 år	1	121	Mean Difference (IV, Fixed, 95% CI)	0.00 [-0.25, 0.25]
1.8 HQOL mental health	1	489	Mean Difference (IV, Random, 95% CI)	-1.19 [-3.01, 0.63]
1.9 HQOL Physical health	1	489	Mean Difference (IV, Random, 95% CI)	-0.76 [-2.29, 0.77]
1.10 Health score conduct >=1 år	1	90	Mean Difference (IV, Random, 95% CI)	4.50 [3.00, 6.00]
1.11 Frafald (dropouts)	5	996	Risk Ratio (IV, Random, 95% CI)	1.41 [0.92, 2.16]

Figures

Figure 1 (Analysis 1.1)

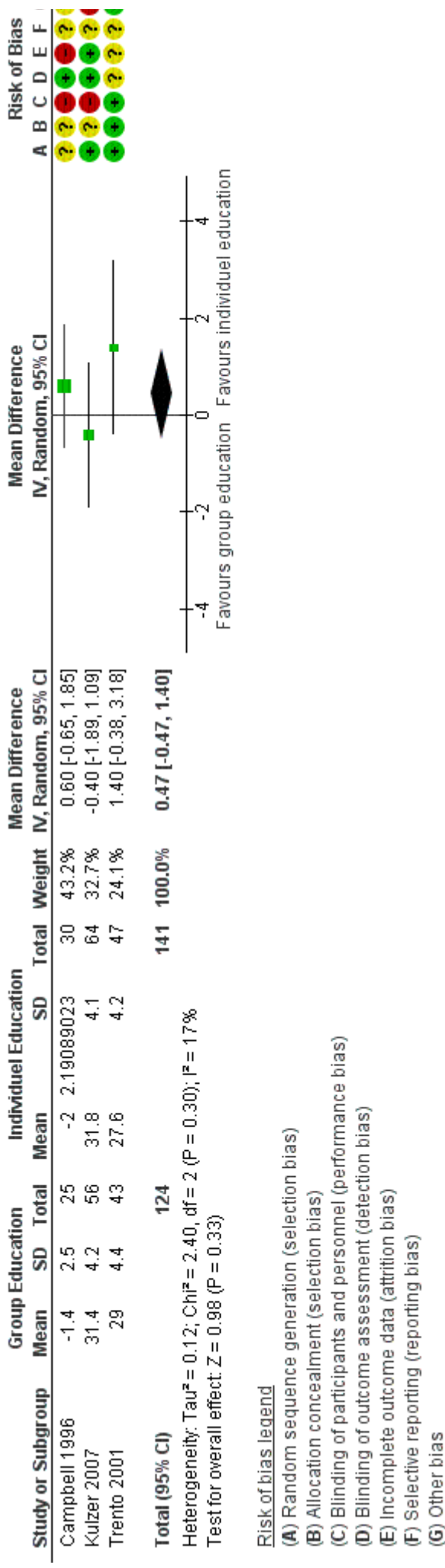


Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

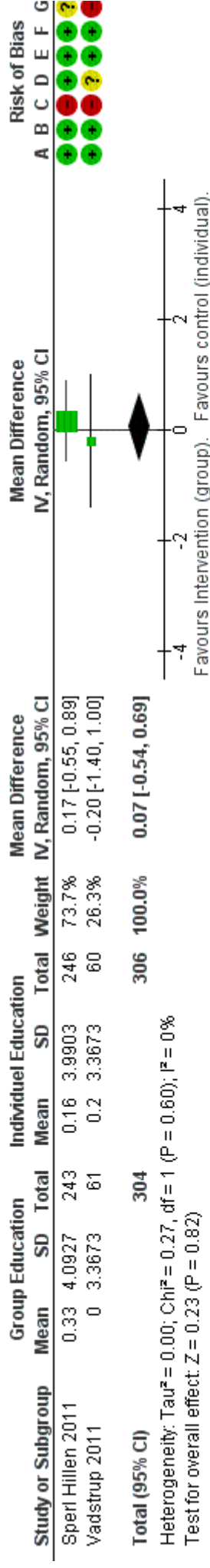
Forest plot of comparison: 1 Gruppe vs Individuelt rehabiliteringsforløb, outcome: 1.1 BMI < 1 år.

Figure 2 (Analysis 1.2)



Forest plot of comparison: 1 Gruppe vs Individuelt rehabiliteringsforløb, outcome: 1.2 BMI >= 1 år.

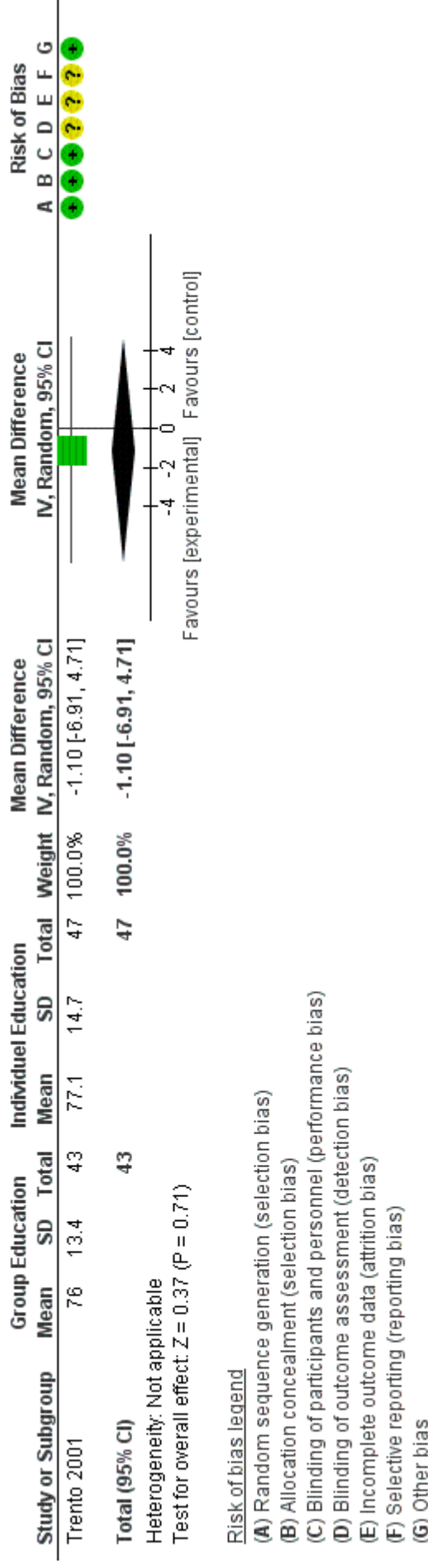
Figure 3 (Analysis 1.3)



- Risk of bias legend
- (A) Random sequence generation (selection bias)
 - (B) Allocation concealment (selection bias)
 - (C) Blinding of participants and personnel (performance bias)
 - (D) Blinding of outcome assessment (detection bias)
 - (E) Incomplete outcome data (attrition bias)
 - (F) Selective reporting (reporting bias)
 - (G) Other bias

Forest plot of comparison: 1 Gruppe vs Individuelt rehabiliteringsforløb, outcome: 1.3 Vægt < 1 år.

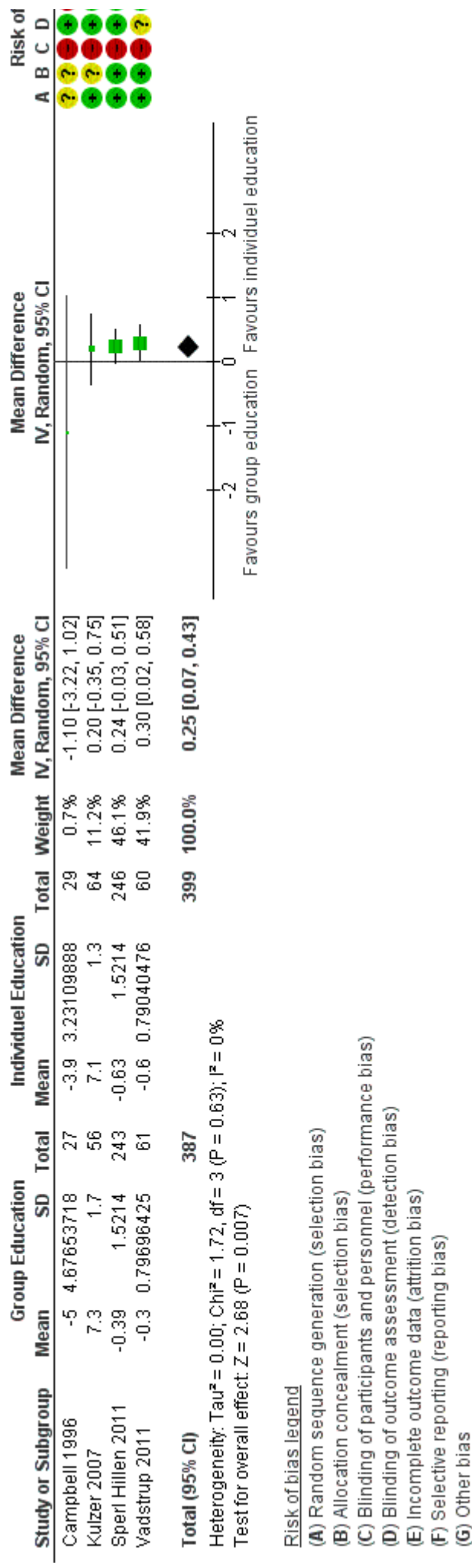
Figure 4 (Analysis 1.4)



- Risk of bias legend
- (A) Random sequence generation (selection bias)
 - (B) Allocation concealment (selection bias)
 - (C) Blinding of participants and personnel (performance bias)
 - (D) Blinding of outcome assessment (detection bias)
 - (E) Incomplete outcome data (attrition bias)
 - (F) Selective reporting (reporting bias)
 - (G) Other bias

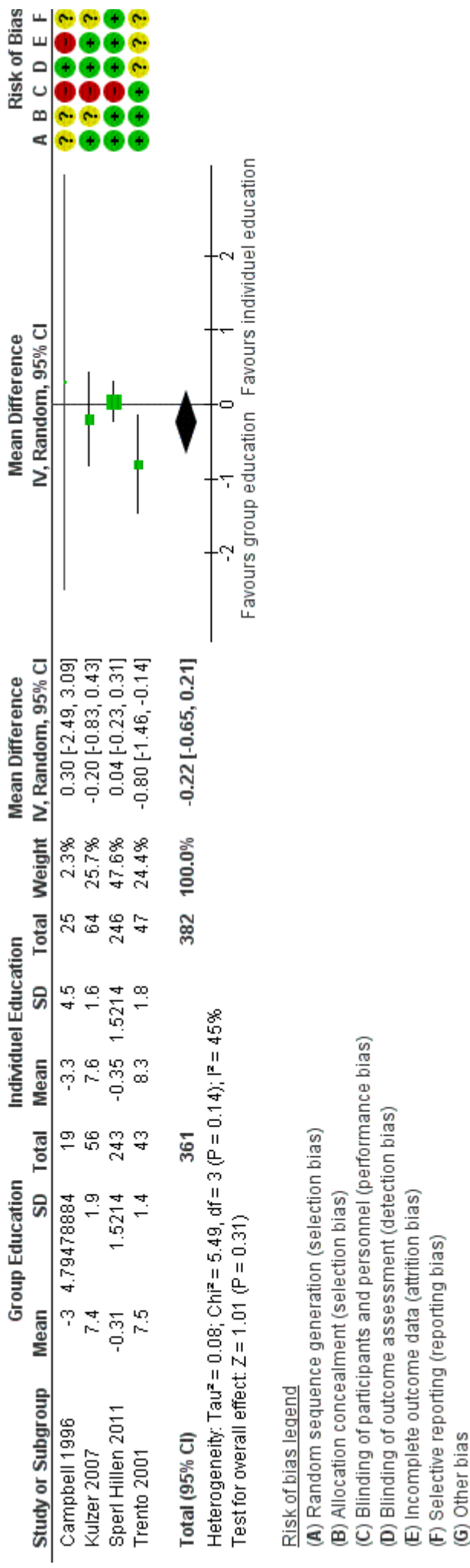
Forest plot of comparison: 1 Gruppe vs Individuelt rehabiliteringsforløb, outcome: 1.4 Vægt >= 1 år.

Figure 5 (Analysis 1.5)



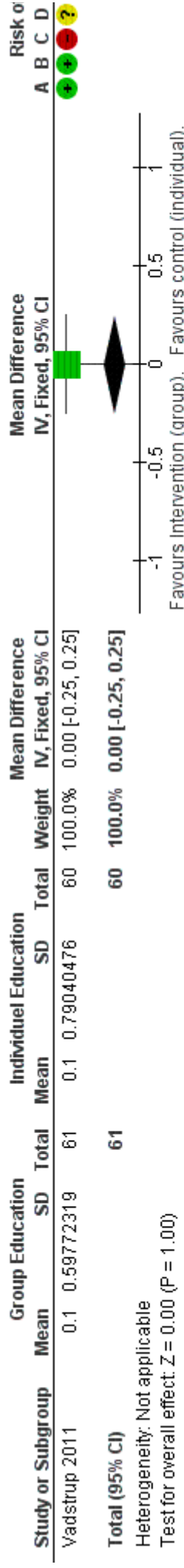
Forest plot of comparison: 1 Gruppe vs Individuelt rehabiliteringsforløb, outcome: 1.5 HbA1c % < 1 år.

Figure 6 (Analysis 1.6)



Forest plot of comparison: 1 Gruppe vs Individuelt rehabiliteringsforløb, outcome: 1.6 HbA1c % >= 1 år.

Figure 7 (Analysis 1.7)

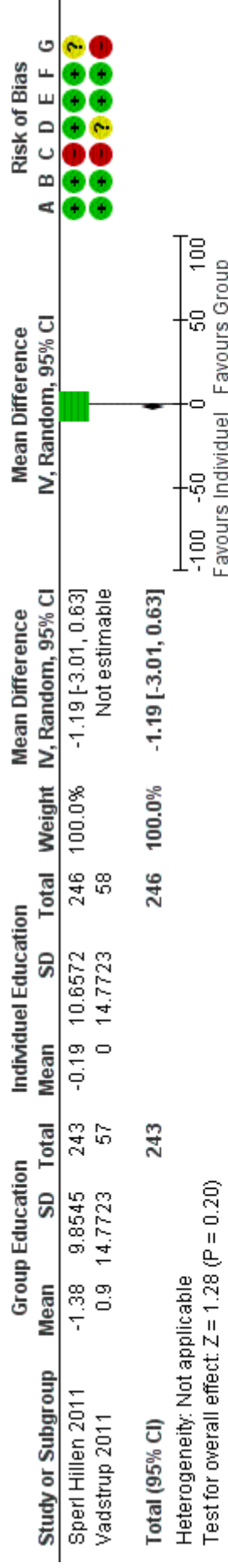


Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

Forest plot of comparison: 1 Gruppe vs Individuelt rehabiliteringsforløb, outcome: 1.7 LDL =< 1 år.

Figure 8 (Analysis 1.8)

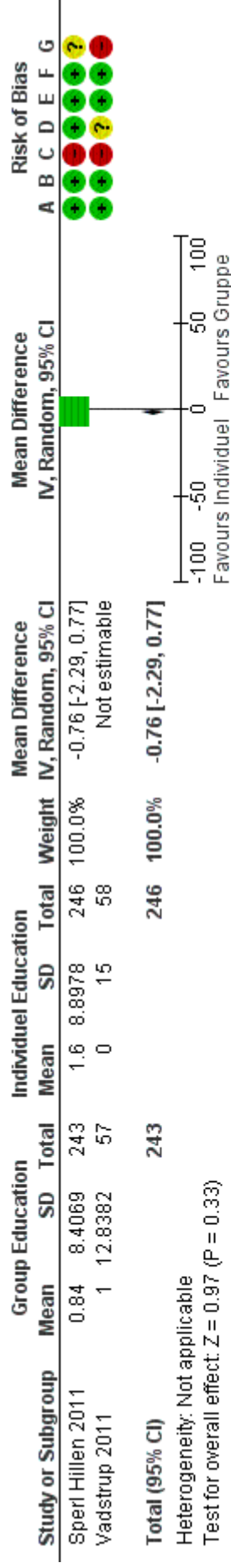


Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

Forest plot of comparison: 1 Gruppe vs Individuelt rehabiliteringsforløb, outcome: 1.8 HQOL mental health.

Figure 9 (Analysis 1.9)

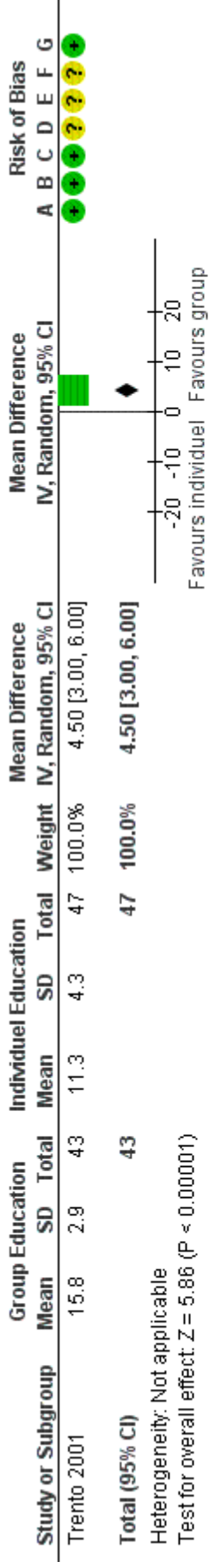


Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

Forest plot of comparison: 1 Gruppe vs Individuelt rehabiliteringsforløb, outcome: 1.9 HQOL Physical health.

Figure 10 (Analysis 1.10)

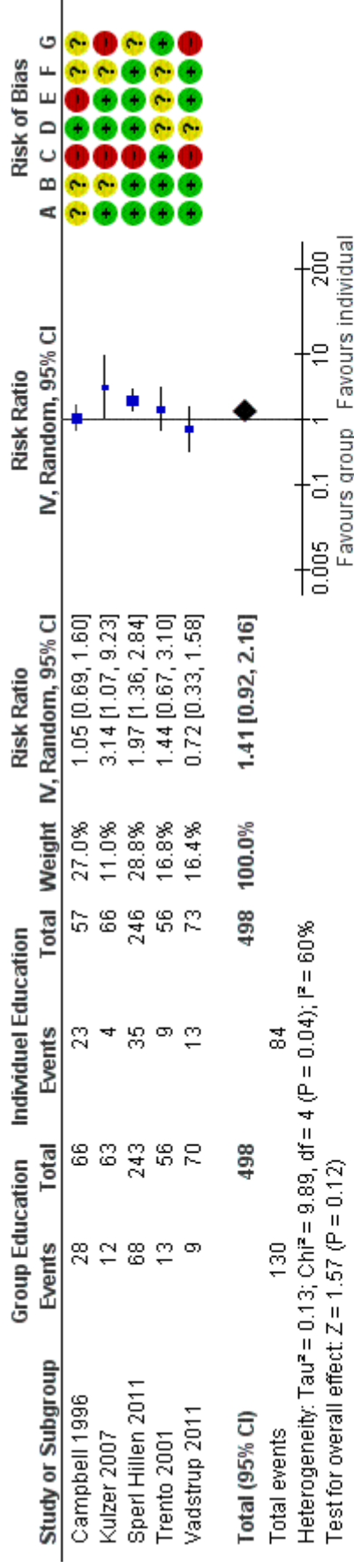


Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

Forest plot of comparison: 1 Gruppe vs Individuelt rehabiliteringsforløb, outcome: 1.10 Health score conduct ≥ 1 år.

Figure 11 (Analysis 1.11)



Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

Forest plot of comparison: 1 Gruppe vs Individuelt rehabiliteringsforløb, outcome: 1.11 Frafald (dropouts).