

EFFICIENCY OF A PRIMARY CARE LED INTERVENTION ON HIGH RISK INDIVIDUALS IN DELAYING PROGRESSION TO TYPE2 DIABETES AMONG HIGH-RISK MEDITERRANEAN-SPANISH INDIVIDUALS

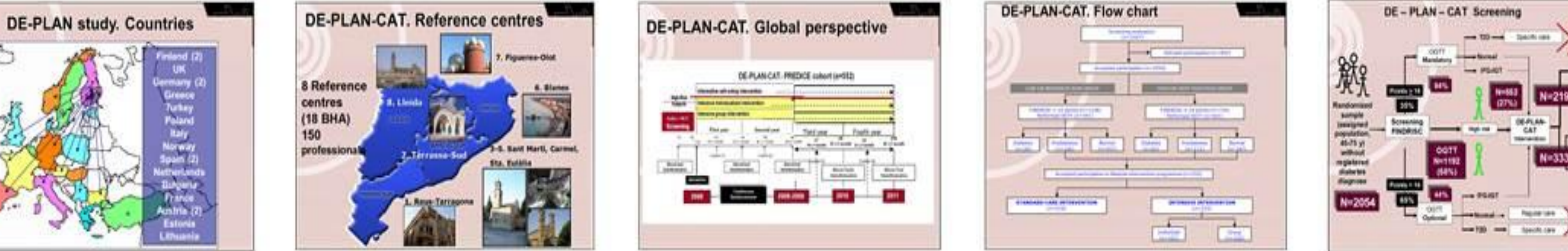
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Background and Aims

One of the main tasks of primary health care (PHC) is to implement strategies leading to improve efficiently the care of the population. It is well known that individuals at high risk, particularly those diagnosed as having prediabetes, tend to progress to Type 2 diabetes. We have previously shown that a PHC lifestyle intervention is effective in delaying progression to diabetes among high-risk individuals. The objective of this study was to show that the strategy is also efficient. Transferring the findings of diabetes prevention research into primary healthcare was the objective of the Diabetes in Europe_Prevention using Lifestyle, Physical Activity and Nutritional intervention project, developed in Catalonia (DE-PLAN-CAT). We report the 4-year cost-effectiveness assessment of the intervention.

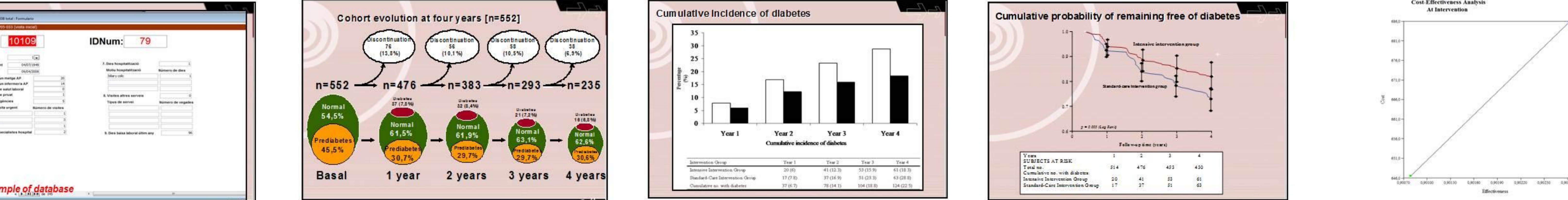
Methods

Incidence of diabetes, resource utilization, cost and quality of life (15D questionnaire) were collected alongside a real-life prospective cohort study conducted in 18 primary care centres. White-European without diabetes aged 45-75 years (n=2,054) were screened using the FINDRISC and a 2-h OGTT. Where feasible, high-risk identified individuals who agreed to participate (n=552) were allocated sequentially to standard care (n=219), a group-based (n=230) or an individual level (n=103) intensive lifestyle DE-PLAN intervention. Analyses after 4.2-year median follow-up were performed based on the intention-to-treat principle. Average costs were calculated using the apportioned costing data recorded. The incidence of diabetes was considered the primary effectiveness outcome but also QoL which was captured periodically using the 15D questionnaire till participants developed diabetes. The results were converted into utility measures. Costs and QoL differences were analysed and a cost-effectiveness analysis was then performed.



Results

Of the 2547 screened patients, 552 (26.9%) had high diabetes risk and 251 (45.5%) type 2 prediabetes and accepted to enter the study. 210 (38%) participated in the standard informative intervention and 342 (62%) in the intensive lifestyle intervention, without differences on risk profile and baseline impaired glucose category between the two studied groups. Diabetes was diagnosed in 124 subjects – 63(28.8%) in the standard group and 61(18.3%) in the intensive intervention group. The number needed to be treated for 4 years to reduce one case of diabetes by intensive intervention was 9.5. The incidences of diabetes after 4.2 years median follow-up were 4 and 3.6 cases per 100 person-years for both group (n=230) and individual (n=103) intensive interventions and 7.2 per 100 person-years in the standard- care (n=219) control group. The cumulative incidence after 4 years follow-up was 20% and 14.6% for both group and individual intervention and 28.8% in the standard care group. The average costs per person of the interventional programme was 686€ compared to 646€ in the non interventional group. The incremental cost of the individual and group intervention compared to the standard preventive care was 10€ and 106€ and the incremental cost-effectiveness ratio (ICER) was 746€ and 108€ per averted case of diabetes, respectively. The QoL (utility) at the end of study was higher for the intervention group (0.93 vs. 0.91) when compared to the control cohort (p=0.01), being the incremental cost-utility ratio 3.243 €/QALY gained. At the sensibility analysis, costs were very sensible to different sources of costing though remaining at an acceptable level. Limitations of the study include the variability of healthcare resource usage and not having included the induced resource usage.



Conclusions

Taking into account the costs of managing patients with diabetes, this study shows that a PHC led lifestyle modification intervention among high-risk people is not only effective but also efficient in delaying progression to diabetes. Given that its implementation should be recommended, payers should decide, depending on their willingness to pay and in the light of average annual costs of diabetes treatment, if the less efficient individual intervention should be proposed because of the higher effectiveness.