



Family doctors go for dmt2-prevention The North German experience

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Background: Progressing rates of type 2 diabetes (dmt2) and associated morbidity causes increasing health care costs in most countries worldwide. Studies of dmt2-prevention showed benefits of lifestyle intervention to delay or even prevent manifestation of dmt2. Questionnaires concerning the 10-year-risk of dmt2 (e.g. Findrisk-Test) are used as a screening-tool. The use of these tools can be a helpful and cost-effective instrument. The non-invasive test may offer useful information concerning risk of diabetes-typ-2, may give reinforcement for lifestyle intervention and support the physicians expertise in a time- and cost-effective way. The enrolment of this simple tool was tested on the population level in a certain region (Kreis Schleswig-Flensburg) in North Germany.

Methods: 37 family doctors in the region of Schleswig-Flensburg, North-Germany, took part in the Prevention-Study „aha! – ab heute anders-“, (= lit. translation: "Go different from now on!") from 2007 to 2013. Information was given during Patient-doctor-contacts and participation in the study was offered. Any patient participation in the aha! Study meant realizing the findrisk test in the doctors office. Testforms were sent to a central office (aha!-Aktionsbüro) for evaluation. The test result was sent as a letter to the participating client with comments as well to the concerning medical doctor. From a score of 10 points detection of the fasting glucose level was recommended, from 12 points recommendation for an oral glucose tolerance test was given to proband and doctor on a voluntary base. Probandns received an „aha!-lifestyle-intervention-kit“ as a starting device for an 8-week-phase. These kits consisted of a ChipList® , a nutrition- and motion-diary and pedometer. The ChipList® shows food and exercise actions in terms of 100kcal. Chips show either a smile for highly nutritious food or a frown for food that should be consumed less frequently. Probandns were advised to monitor their daily energy intake und expenditure by means of the diary in 100-kcal-equivalents and their daily step-counts as shown by the pedometer. Body weight and waist circumference was self monitored once a week in the diary.

Wochentag	Wochentag	Wochentag	Wochentag	Wochentag	Wochentag	Wochentag	Wochentag
Montag	Dienstag	Mittwoch	Donnerstag	Freitag	Samstag	Sonntag	
Vollwertige Chips: blau		Gestrichelte Chips: rot		aha! Chips & Saft		das Tagebuch	
Das war heute mein Sport- oder andere körperliche Aktivität		Schriftlich laut		Schriftlich laut		Schriftlich laut	
Gewicht: kg		Taillenumfang: cm					



In 54 clients (34 ♀, 20 ♂) dmt2 was newly diagnosed in the course of the study. Mean values: ♀: Age 52,5 y, BMI 37,2 kg/m², waist c. 114,4 cm, score Findrisk 19,3 points, Mean values: ♂: Age 49,3 y, BMI 35,08 kg/m², waist c. 121,7 cm, score Findrisk 19,2 Points, see table 2. Use of the aha!-startingset led to an initial weight loss of 4,8kg (♀ 4,6kg, ♂ 5,5kg), and a reduction of waist circumference of 7,5cm (♀ 3,6cm, ♂ 9,6cm) within eight weeks.

Characteristics	n	%	Characteristics	n	%
Age years			daily fibre rich diet		
<35	91	7,50			
35-44	161	13,29	yes	840	69,4
44-54	304	25,10	no	371	30,6
54-64	462	38,15			
>64	193	15,93			
BMI kg/m ²			Antihypertensive drugs?		
<25	183	15,1	no	453	38
25-30	429	35,4	yes	758	62
>30	599	49,5			
Waiste circumfer.			History of elevated blood sugar levels?		
♀ / ♂			yes	120	9,91
<80 / <94	105	..8,7	no	1091	90,09
80-88 / 95-102	205	..16,9			
>88 / >102	901	74,4			
Physical activity >150 min/week			dmt2-Disposition?		
yes	810	66,8	none	632	52,18
no	401	33,2	Relatives 1.Gd.	414	34,18
			Relatives 2.Gd.	165	13,62

Table 2: Distribution of Findrisk-characteristics in the aha!-collective

Total N = 54	Age years	BMI kg/m ²	waiste cm	Findrisk score
MW	51,3	36,44	117,15	19,97
SDD	14,13	6,77	15,78	5,23
♀ n = 34				
MW	52,5	37,24	114,47	19,32
SDD	13,5	7,4	14,7	3,1
♂ n = 20				
MW	49,35	35,08	121,72	19,25
SDD	15,3	5,3	16,8	3,2

Table 3: Clients with newly discovered diabetes

Results: Data from 1211 clients (765♀, 446♂) were collected in the aha! study between 2007 and 2013 on voluntary base. Female clients (mean values): Age 53,58 years, BMI 31,2kg/m², waist circumference 100,65 cm, score Findrisk: 13,31 Points. Male clients: (mean values): Age 54,07 years, BMI 30,85kg/m², waist circumference 109,3 cm, score Findrisk: 13,36 Points. Distribution of characteristics are shown in tables 1 - 3.

Total N = 1211	Age years	BMI kg/m ²	waiste cm	Findrisk score
MV	53,9	31,1	103,9	13,3
SDD	12,3	6,4	15,6	4,68
♀ n = 765				
MV	53,58	31,20	100,65	13,31
SDD	12,50	6,75	15,4	5,04
♂ n = 446				
MV	54,07	30,85	109,3	13,36
SDD	12,23	5,93	14,6	4,74

Table 1: All clients

Conclusion: Caring about patients risk of type-2-diabetes in family practice is worthwhile. An item as the findrisk-questionnaire is easy to use, all the data needed for the findrisk test is easy to collect within the usual doctor-patients-contacts. Test results supplemented by comments may emphasize the medical advice. Use of diabetes-risk-tests may contribute to an earlier detection of dmt2 and earlier treatment. Simple visualizing tools as nutrition- and motion-diaries and pedometers are useful to initiate lifestyle change for people at risk for dmt2 and for diabetic patients.



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