The influence of partners on lifestyle-related risk factors in patients after an acute coronary syndrome

results from the RESPONSE-2 randomized controlled trial

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Background

Having a partner is associated with better prognosis in patients with cardiovascular disease. However, the influence of partners on modification of patients' lifestyle-related risk factors (LRFs) is unclear.

Aim

To study the influence of partners and the level of partner participation on LRF modification in patients after coronary artery disease (CAD).

Methods

Secondary analysis of the RESPONSE-2 trial[1] (multicentre RCT). The primary outcome was the association of partner on patients' improvement in ≥1 objectively measured LRF, without deterioration in other LRFs at 12 months follow-up (n=711). Secondary, the influence of the level of partner participation (participating partner, non-participating partner and no partner) in the lifestyle programs in the intervention group was studied.

Intervention

In the RESPONSE-2[1] intervention up to three community-based lifestyle programs were provided, depending on patients' LRFs and preferences. Partners were invited to participate regardless of their own lifestyle issues.

- **The smoking cessation program** (Luchtsignaal®) was a telephone counselling-based intervention. Trained professionals provided strategies of motivational interviewing and pharmacological treatments for smoking cessation were prescribed, as appropriate.
- **The weight loss program** (Weight Watchers®) was focused on diet patterns, unhealthy behaviour and physical activity. Weekly group-based sessions and weigh-ins were provided.
- **The physical activity program** (Philips DirectLife®) was offered as an internet-based program with an accelerometer and personalized feedback by an online coach to monitor and improve physical activity.

Results

Table 1. Population characteristics

		Total group N=711			Intervention group with partner n=293		
		No partner	Partner		Participating partner	Non-participating partner	
		n=140	n=571	p-value	n=141	n=152	p-value
	Age, years	58 ±9	59 ±9	0.32	59 ±8	58 ±10	0.32
	Female	41 (29)	108 (19)	0.007	21 (15)	38 (25)	0.03
	Cohabiting	NA	29 (5)	NA	132 (94)	141 (93)	0.93
Patient risk profiles							
	Overweight (BMI ≥27 kg/m^2)	94 (67)	428 (75)	0.07	116 (82)	105 (69)	0.009
	Smoking or quit ≤6 month of baseline	93 (66)	246 (43)	<0.001	55 (39)	76 (50)	0.06
	Physical inactivity (≤ 30 minutes per day)	77 (55)	366 (64)	0.05	98 (70)	91 (60)	0.09
Partner risk profiles							
	Smoking partner (self-reported)	NA	147 (26)	NA	30 (21)	50 (33)	0.03
	Overweight partner (self-reported)	NA	249 (44)	NA	71 (50)	47 (31)	0.001
	Physical inactivity partner (self-reported)	NA	231 (40)	NA	61 (43)	55 (36)	0.17
Referred to a lifestyle program							
	Luchtsignaal, smoking cessation, N=76	NA	NA	NA	16 (21)	25 (33)	0.64
	Weight Watchers, weight reduction N=222	NA	NA	NA	90 (41)	74 (33)	0.23
	Direct Life, physical activity N=177	NA	NA	NA	81 (46)	60 (34)	0.008

Table 2. Association of (participating) partners and patients' outcomes in lifestyle-related risk factors

Total group	Explanatory variable	aOR	95% CI	p-value
Primary outcome				
Overall success	Partner	2.57	1.57 - 4.21	<0.001
Men overall success		2.32	1.32 - 4.07	<0.001
Women overall success		4.03	1.38 - 11.76	0.03
Intervention group				
Secondary outcomes				
Overall success	Participating partner vs no partner	2.45	1.25 - 4.79	0.009
Smoking cessation		1.14	0.55 - 2.36	NS
Weight reduction		2.71	1.16 - 6.36	0.02
Physical activity		1.20	0.65 - 2.19	NS

Conclusion

Having a partner is associated with improvement on LRFs in patients after CAD

Moreover, patients with participating partners in the lifestyle programs were most successful in LRF modification.

Involvement of partners in lifestyle interventions should be considered in routine practice.

No conflicts of interest to declare

[1] Minneboo M, Lachman S, Snaterse M, et al. Community-Based Lifestyle Intervention in Patients With Coronary Artery Disease: The RESPONSE-2 Trial. J Am Coll Cardiol 2017;70(3):318-327.