

### Reversing social gradient: Impact of patients' communication with their practitioners on adherence to preventive behaviours

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Good communication with a physician has positive effects on patients' adopting preventive behaviours. But the question is: what are the health inequalities concerning their perceived financial situation? We aimed at analysing in what extent financial situation influences the associations between quality of communication and improved secondary preventive behaviours and limited risk factors - in cardiovascular diseases: hypertension, overweight, obesity, hypercholesterolemia, diabetes.

**Method.** 1,289 patients who underwent a coronary angiography in Luxembourg completed a self-administered questionnaire in 2008/09 and 2013/14. The association between improving each preventive eating behaviour (decrease salt, sugar, and fat in take; increase of fruits/vegetables) and the quality of physician-patient communication (5-items scale) was evaluated using logistic regression models. Perceived financial situation (difficult, easy, and very easy) was introduced in interaction with the communication score.

	Financial Situation			p
	Difficult	Easy	Very easy	
<b>N</b>	188 (15.4 %)	774 (63.4 %)	259 (21.1 %)	
<b>Age</b>	64.2 (± 11.8)	69.2 (± 11.0)	71.6 (± 10.6)	<0.0001 ***
<b>Married</b>	62.8 %	74.2 %	73.3 %	0.007 **
<b>Angina pectoris</b>	22.1 %	11.2 %	5.2 %	<0.0001 ***
<b>Acute myocardial infarction</b>	17.8 %	11.2 %	7.2 %	0.006 **
<b>Ischemic heart disease</b>	22.6 %	21.5 %	14.0 %	0.037 *
<b>Overweight</b>	47.7 %	45 %	46.5 %	0.595
<b>Hypercholesterolemia</b>	51.9 %	48.5 %	40.7 %	0.055
<b>Hypertension</b>	48.1 %	43.4 %	35.1 %	0.025 *
<b>Obesity</b>	31.6 %	33.2 %	22.1 %	0.003 **
<b>Diabetes</b>	34.2 %	30.8 %	22.5 %	0.026 *

Table 1: Description of the sample (n=1289).

From the point of view of preventive behaviours, the increase in fruit and vegetable consumption is always associated with the quality of doctor-patient communication regardless of the risk factors. Regardless of the risk factor, the quality of doctor-patient communication has no connection with the decrease in fat intake.

The effects of the quality of communication are generally more pronounced when patients declare themselves to be in a difficult financial situation. Thus, patients in a difficult or easy financial situation have a higher probability of decreasing their salt intake when the physician-patient communication quality increases ((OR [95% CI] respectively: 1.139 [1.045; 1.240], 1.105 [1.032; 1.182]). There is a similar pattern for increased consumption of fruit and vegetable in patients with hypertension, diabetes, overweight or hypercholesterolemia.

In the case of obesity, the OR is very significantly greater than 1 whatever the financial situation.

Concerning reduction or cessation of sugar consumption, there is an association between communication quality and the probability that the patient will improve his behaviour. This is very significant in patients with diabetes regardless of their financial situation. Similarly, the link is significant among patients suffering from hypercholesterolemia in a difficult financial situation (OR [95% CI]: 1.095 [1.009; 1.189]).

Preventive behaviour	Financial Situation	Odd Ratio	SE	p
<b>Patients with hypertension</b>				
↘ Salt intake	Difficult	1.139	0.050	0.003 **
	Easy	1.105	0.038	0.004 **
	Very easy	1.074	0.043	0.074
↗ Fruits & vegetables	Difficult	1.130	0.048	0.004 **
	Easy	1.085	0.036	0.014 *
	Very easy	1.079	0.041	0.049 *
<b>Patients with diabetes</b>				
↘ Sugar intake	Difficult	1.188	0.079	0.009 **
	Easy	1.159	0.047	0.000 ***
	Very easy	1.232	0.089	0.044 **
↗ Fruits & vegetables	Difficult	1.171	0.067	0.006 **
	Easy	1.104	0.040	0.007 **
	Very easy	1.101	0.057	0.064
<b>Patients with hypercholesterolemia</b>				
↘ Sugar intake	Difficult	1.095	0.046	0.030 *
	Easy	1.058	0.036	0.103
	Very easy	1.038	0.041	0.346
↗ Fruits & vegetables	Difficult	1.139	0.048	0.002 **
	Easy	1.088	0.037	0.012 *
	Very easy	1.070	0.042	0.083
↘ Fat intake	Difficult	1.046	0.046	0.309
	Easy	1.039	0.038	0.298
	Very easy	1.052	0.046	0.245
<b>Patients with overweight</b>				
↘ Sugar intake	Difficult	1.093	0.051	0.056
	Easy	1.028	0.036	0.428
	Very easy	0.998	0.041	0.966
↗ Fruits & vegetables	Difficult	1.089	0.047	0.048 *
	Easy	1.077	0.037	0.030 *
	Very easy	1.041	0.041	0.309
↘ Fat intake	Difficult	1.052	0.051	0.297
	Easy	1.017	0.038	0.655
	Very easy	1.005	0.044	0.913
<b>Patients with obesity</b>				
↘ Sugar intake	Difficult	1.086	0.056	0.106
	Easy	1.081	0.040	0.034 *
	Very easy	1.024	0.047	0.601
↗ Fruits & vegetables	Difficult	1.180	0.064	0.002 **
	Easy	1.109	0.039	0.004 **
	Very easy	1.168	0.061	0.003 **
↘ Fat intake	Difficult	1.060	0.057	0.283
	Easy	1.045	0.041	0.257
	Very easy	0.988	0.047	0.806

Table 2: Relationships between patients-practitioners communication and preventive behaviours of cardiovascular risk factors according to the financial situation.

**Conclusion.** The quality of communication has a higher impact on adopting healthy behaviours in patients declaring themselves in financial difficulty. These findings raise awareness on the importance, of physician-patient quality of communication in patients with perceived financial difficulties in improving adherence to secondary preventive recommendations. Across the lifespan, it highlights the role of physicians in reversing their patients' social gradient.