EFFECTS OF PRIMARY AND SECONDARY PREVENTION

P5468 Studying the gap between actual and perceived risk for cardiovascular diseases: results from the Heart Attack Prevention Program for You (HAPPY)

M.K. Stoel[1], F. Dijk[1], J. Narula[2], E.M. Laufer[1], L. Hofstra[1]. [1]*University Hospital Maastricht, Maastricht, Netherlands;* [2]*Irvine Medical Center, Irvine, United States of America*

Purpose: The goal of the HAPPY (Heart Attack Prevention Program for You) intervention is to increase cardio vascular diseases (CVD) risk factor awareness by mass screening and mass health communication. The purpose of the current study was to examine the ability of participants to accurately estimate their CVD risk.

Methods: Participants in this study were 1511 adults recruited from the baseline measurement of the HAPPY program. Actual risk was defined as the PROCAM risk score, indicating the 10-year-heart attack risk (in %), was calculated from information obtained during a mass Health Check (HDL and LDL cholesterol, glucose, systolic blood pressure and triglycerides) and an online questionnaire (age, sex, family history, smoking and diabetes). Perceived CDV risk was presented as participants' personal CVD risk estimation (in %). Means for observed and perceived risk were compared for categories of various risk factors (e.g. blood pressure, medication for high cholesterol, BMI, PROCAM) as well as for men and women separately by conducting paired and independent T-tests.

Results: Overall, participants overestimated their risk for CVD significantly by 5.2% (perceived: 8.0%, actual: 2.8%). Men showed significantly less overestimation than women (1.5% vs. 6.7%). Participants with a low PROCAM score (<5%) showed the largest overestimation, namely 6.5%. In contrast, participants with a high PROCAM score (>20%) underestimated their risk (actual 30.1%, perceived 10.5%). A comparison between men and woman showed that women overestimated their risk significantly more than men in every subpopulation studied, except for women with an intermediate PROCAM and known high blood sugar levels.

Conclusions: This study showed that perceived CVD risk did not necessarily correspond with actual risk. Participants with a low risk overestimate their risks significantly. Participants with an intermediate risk mostly estimate their risk correctly, except for women. Participants with a high risk underestimate their risk significantly. The fact that high-risk participants underestimated their risk by 20% calls for population based clinical risk profiling programs through which a better risk awareness can be accomplished. Educational programs about health and lifestyle improvement are generally more successful when participants have a realistic perception of their personal risk.

P5469 Heart Attack Prevention Program for You (HAPPY): Effects of a mass screening and communication intervention

F. Dijk[1], M.K. Stoel[1], J. Narula[2], E.M. Laufer[1], L. Hofstra[1]. [1]*University Hospital Maastricht, Maastricht, Netherlands;* [2]*University of California, Irvine, United States of America*

Purpose: The goal of the HAPPY (Heart Attack Prevention Program for You) intervention is to decrease cardio vascular disease (CVD) risk factors by mass screening and mass health communication. The purpose of the current study was to examine 3-month effects of the program.

Methods: Participants in this study were 595 Dutch adults who completed baseline and 3-month follow-up measurements of the HAPPY program. Measurements consisted of a mass health check measuring height, weight, waist circumference, blood pressure, cholesterol (total, HDL, LDL), glucose and triglyceride levels, and an online questionnaire measuring CVD family history, smoking and other lifestyle behaviors (diet, physical activity, stress and alcohol consumption). The major outcome of the study was the 10-year heart attack risk (PROCAM score). For intervention in lifestyle, computer tailored personally relevant feedback on participants' health check outcomes and lifestyle behaviors was followed by weekly digital newsletters containing lifestyle enhancing advices. In addition, all participants were invited to join either running or Nordic walking clinics on a weekly basis.

Results: The program had significant positive effects on the health of the participants. Elevated blood pressure was measured on 49.7% at the first health check, which had decreased to 30.2% at second health check. CVD risk factors improved significantly ($p<0.000$): mean systolic blood pressure decreased from 139 to 131 mmHg, mean diastolic blood pressure decreased from 82 to 78 mmHg, total cholesterol levels decreased from 215 mg/dl at baseline to 206 mg/dl at follow-up and LDL levels decreased from 140 to 136 mg/dl. Triglyceride levels decreased from 98 mg/dl to 89 mg/dl in the 3-month period. One negative effect of the intervention was found: HDL levels decreased from 55 to 50 mg/dl. Participants lost a mean of 1.3 kilo's body weight and the PROCAM risk score decreased significantly from 6.3 to 5.5%.

Conclusions: This study shows that cardiovascular risk screening of large numbers of participants is feasible, and that the mass communication intervention via the Internet was effective in decreasing the PROCAM risk score. The rate of participants who reported to have read the information that was send via e-mail was 98.2%, indicating that participants are amenable to the design of mass communication messages if presented appropriately. This study inspired us to perform a larger study on the effects of an extended 1-year HAPPY intervention of which results will come available within the next months.

P5470 Estimates of the magnitude of improvements in cardiovascular risk factors in a diabetes mellitus sub-population enrolled in large-scale primary care intervention programmes

L. Jessop[1], C.C. Kelleher[1], M. Lonergan[1], H. Ulmer[2], P. Fitzpatrick[1] on behalf of Vorarlberg Health Monitoring and Promotion Programme and Heartwatch Programme of secondary prevention. [1]*University College Dublin, Dublin, Ireland;* [2]*Innsbruck Medical University, Innsbruck, Austria*

Purpose: Models estimating the relative benefits of clinical and population interventions usually rely, for estimates of effectiveness, on controlled condition studies and few databases are adequate to assess the intervention effects in primary care. This study compares follow-up in two of the largest general practice programmes: the Vorarlberg Health Monitoring and Promotion Programme (VHM&PP) in Austria and the Heartwatch Programme of secondary prevention in Ireland.

Methods: Participants were those in Heartwatch or VHM&PP aged 40-64 years who had diagnosed diabetes or fasting glucose level greater than 7mmol/l (in VHM&PP, indicating diabetes). They had no proven cardiovascular disease at baseline and follow-up was 1-2 years after their initial visit.

Results: 1254 participants, 637 from Heartwatch (4.6% of the total) and 617 from VHM&PP (2.7% of the total). They had similar sex and working status, but VHM&PP were slightly older (mean 56.6 years vs. 54.7 years) with more smokers (27% vs. 20%). At baseline there were significant differences ($p<0.001$) with Heartwatch patients being heavier, a higher BMI, but lower systolic and diastolic blood pressures, total cholesterol and fasting glucose. Improvements were comparable in magnitude in both centers (Table 1). In VHM&PP, blue collar workers responded significantly less well at follow-up for obesity, systolic blood pressure and glucose than white collar workers, no socioeconomic effect was seen in Heartwatch.

Table 1. Number and percentage change in those with risk factor values within target for VHM & PP and Heartwatch

Factor	Heartwatch number (%)		% Change between visits (p-value)	VHM & PP number (%)		% Change between visits (p-value)
	baseline	follow-up		baseline	follow-up	
Obese - BMI 30+ kg/m^2	364 (58.8)	345 (55.7)	-3.1 (0.01)	246 (39.9)	248 (40.2)	0.3 (0.89)
Systolic BP <40 mmHg	303 (48)	332 (52.6)	4.6 (0.12)	253 (41)	281 (45.5)	4.5 (0.05)
Diastolic BP <90 mmHg	466 (73.5)	502 (78.9)	5.4 (0.03)	382 (61.9)	412 (66.8)	4.9 (0.02)
Cholesterol <5 mmol/l	368 (58.5)	453 (72)	13.5 (<0.001)	169 (27.8)	231 (37.9)	10.1 (<0.001)

Conclusion: This study shows that primary care interventions for diabetes can lead to more people reaching target values for cardiovascular risk factors. They indicate comparable clinical outcomes in two different primary care populations, suggesting these results may be generalisable but lower in magnitude than estimates from ideal condition studies would imply. This has important implications for assessing the relative benefits of lifestyle and clinical interventions on population trends.

P5471 A multidiscplinary programme for changes in life style in primary prevention

S. Scalvini[1], E. Zanelli[1], P. Bernocchi[1], L. Comini[1], F. Rivadossi[1], A. Paini[2], M.L. Muiesan[2]. [1]*Fondazione Salvatore Maugeri, IRCCS, Lumezzane (Brescia), Italy;* [2]*Department of Medical and Surgical Sciences, University of Brescia, Brescia, Italy*

Background: the increase of the cardiovascular diseases needs new strategies of intervention. The development of new technological systems can improve the continuity of care for patients (P) in primary prevention programmes.

Methods: clinical supplies were provided by the use of Home Telesurveillance (HTS). P were triaged by a nurse-tutor (NT) monitoring clinical conditions with: scheduled calls, telematic transmission of biological signals (BAP, 1-lead ecg), clinical and therapeutic data.

Results: 26 P (55±9 y), with at least 3 cardiovascular risk factors, were enrolled in the program lasting 198±23 days. At the beginning (T0) and at the end (T1) of the programme, some parameters were evaluated (table, mean±SD). During the HTS program, 1628 total calls were performed (63±33 calls/patient) being 60±33 calls/patient scheduled by the NT and 2,2±2,5 required by P. The average time/contact was 12,8±1,4 min; P referred 39±24 BAP self-assessment and 50±26 one lead-ecg. All these data were firstly evaluated by the NT and compared with the basal data. The telephone calls were due to: scheduled controls (1476), communications (115), palpitations (16), asthenia (13), dyspnoea (1) and hypertensive attack (7). The actions taken planned: new calls (1431), hospital admission (1), cardiac visits (22), further examinations (9), general practitioner's visit (2), therapy modifications (28) and educational supports (135).

Conclusions: a multidisciplinary HTS program for changes in life style deter-

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