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Aim

The overall aim of the journal is to support the work towards better health gain by an integration of Health Promotion into the organisational structure and culture of the hospitals and health services. This is done by significant improvement of a worldwide publication of clinical health promotion based on best evidence-based practice for patient, staff and community.

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Possibility of causality
This year new meta-analyses show that smoking is associated with increased risk of psychosis and with earlier onset of psychotic illness (1). The results indicate that smoking could be a causal factor for development of psychotic illness, thus adding mental illness to the long list of harmful injuries from smoking. However, the evidence of a causal link between smoking and psychosis requires more investigation to establish, including genetics, social conditions and other influencing factors.

No scientific support of smoking as self-medication for mental ill patients
Overall, psychiatric patients have a very high frequency of smoking. An old but still thriving theory states that smoking is used by patients with a mental diagnosis for self-medication of their mental illness. This should then counteract the health risk related to smoking to a degree, as many patients with a psychiatric diagnosis have been encouraged to continue to smoke by psychiatric wards establishing indoor smoking rooms/boxes and routines with free cigarettes. Surprisingly, this takes place in countries with highly developed psychiatry.

Patients with a mental diagnosis have a rather poor health with a huge potential for improvement. A potential, which is often not utilised in the health care settings – despite that many patients have a long continuity in the staff. A few years ago, a large Scandinavian registry study showed that patients with a psychiatric diagnosis pass away about 15-20 years before the background population, mainly because of medical diseases that are potentially preventable (2).

There are no scientific arguments supporting the old theory of self-medication. In contrast, growing evidence shows that quitting smoking is associated with better mental health status; depression, anxiety and stress are reduced, while the psychological quality of life and positive mood is increased significantly after the tobacco withdrawal period has finished. The improved mental status is common for both psychiatric smokers and other smokers (3).

A pre-understanding of continuous smoking being good for the mental ill patients is probably strange for the younger generations, while the senior generations have experienced similar examples before within internal medicine and surgery.

Internal Medicine
In the nineteen-fifties, the strong association between smoking and throat problems was used to advertise specific cigarettes as being “good for your T-zone”; i.e. the throat and mouth. Doll and Hill famously demonstrated the danger of smoking back in 1956 (4), and built a solid platform of knowledge that has expanded ever since. Today, everybody knows smoking is a cause of development of diseases in the so-called “T-zone” as well as in many other organ systems. Even second-hand smoking has severe consequences. Today, the evidence of smoking-ban and quit-smoking interventions is strong; both regarding effect and cost-effectiveness.

Surgery
Also in the middle of last century, another strong association was identified between smoking and complications after surgery for the first time. This association has since then been re-evaluated in over 300 studies (5). A quite new aspect of the danger of smoking was introduced through a demonstration of direct relation between smoking and the outcome of treatment.

Though many conditions are not caused by smoking directly, are however aggravated by smoking. In addition to surgical
interventions this is the case for a general condition like pregnancy, and illnesses like asthma and diabetes – amongst others. In the nineteen-eighties an observational study was published, and based on extrapolation, the authors considered it dangerous to quit smoking less than 8 weeks before surgery (6). This has since then been contradicted by several other and more solid studies as shown in a systematic review from 2009 (7).

It took about fifty years from the association was identified until the first randomised study on smoking cessation intervention in the preoperative period took place (8). Today, smoke-free operations, where the patients are offered smoking cessation interventions prior to the operation, are implemented all over the world to improve the surgical outcome.

Psychiatry

Patients with a psychiatric diagnosis should have relevant treatment that includes both their mental and physical health – in line with all other patient groups.

Often heavy smoking is followed by severe addiction and development of strong withdrawal symptoms requiring pharmaceutical treatment in combination with motivational counselling, other psychological support and patient education. This is also effective for psychiatric patients (9). The process towards successfully quitting smoking is improved by smoke-free surroundings. In a busy clinical environment, it may seem convenient to avoid withdrawal symptoms by establishing smoke-rooms and offering free cigarettes; an approach which would then counteract any efforts towards introducing smoking cessation interventions. It corresponds to having a bar with free beers when treating alcohol addicted patients. Nevertheless, the free beers scenario seems too obscure to be the case within psychiatric clinics and hospitals, where a “zero alcohol tolerance” is the general policy, and where alcohol withdrawal symptoms are handled carefully. So why is tobacco not seen in the same way?

Smoke-free psychiatry is a must in line with the above-mentioned smoke-free operation or in the area of cardiology and pulmonology.

References
Alcohol, drugs, and smoking among future psychologists: Differential contributions of Big Five personality traits, Sources of Meaning, and Self-efficacy

Tatjana Schnell¹ and Henning Krampe²

Abstract

Background Alcohol and drug use among university students is high, often exceeding cut-off levels for risky consumption. Negative consequences abound. In the case of psychology students, development of a healthy approach to substance use is of particular importance, since it might affect prospective clients and patients. To what degree are consumption levels influenced by students’ dispositional personality traits and, beyond these, more malleable characteristic adaptations?

Methods The present study investigated consumption levels of 130 first year psychology students in the year before entering university. Dispositional personality traits (Big Five: NEO-FFI) and characteristic adaptations (Sources of Meaning: SoMe, and substance-related self-efficacy) were examined as predictors of alcohol, tobacco, and illicit substance use.

Results Sixty-seven percent of participants scored above the cut-off for hazardous alcohol consumption, 38% were smokers and 33% had consumed illicit drugs in the previous year. Reduced alcohol consumption was predicted by conscientiousness, spirituality and substance-related self-efficacy. Non-smoking was accounted for by conscientiousness and substance-related self-efficacy. Openness predicted higher, conscientiousness and religiosity lower intake of illicit drug use (R²s from 25%-37%).

Conclusion With conscientiousness, a relatively stable, decontextualized dispositional trait proved to be the most influential factor on reduced substance use, but more dynamic characteristic adaptations – in particular, a commitment to spirituality or religiosity and a high degree of substance-related self-efficacy – had additional specific impacts.
What is known about students’ motives to drink, smoke and use illicit drugs at high levels? Motives generally associated with excessive consumption are socializing, having fun, and self-expression (5-7). To what degree are these linked to the users’ personality? Are levels of intake associated with dispositional personality traits? Can more dynamic characteristic adaptations shape addictive behavior over and above these rather stable features? Pathways towards student addictive behavior are far from being well understood. The present study aims to contribute to the clarification of this conundrum by investigating the predictive power of different levels of personality in relation to alcohol, tobacco, and illicit drug use.

**Theoretical background**
Levels of personality and alcohol and drug consumption

In their integrative model of personality, McAdams & Pals distinguish between levels of personality on the basis of their stability and contextualization (8). Three levels are identified: dispositional traits, characteristic adaptations, and life narratives. Dispositional traits, such as the Big Five personality factors (neuroticism, extraversion, openness, agreeableness, and conscientiousness), are known to be relatively stable and de-contextualized (8). Heritability values of about 50% have been established. Characteristic adaptations refer to the intentional structure of personality-in-context. McAdams and Pals describe them as “motivational, social-cognitive, and developmental adaptations, contextualized in time, place, and/or social role” (8). They are associated with dispositional traits, but not determined by these.

Both traits and characteristic adaptations guide experience and behavior in social contexts (8), and affect drinking and drug use patterns (5). On the level of dispositional traits, individuals differ with regard to psychophysical response to rewarding and threatening stimuli (9); response patterns are associated with the capability to manage consumption (10). Characteristic behavioral activation and inhibition link up with traits implicated in social life, such as the Big Five (11). Of these, two have been associated with higher consumption levels: extraversion, and neuroticism; lower levels of consumption are predicted by agreeableness and conscientiousness (1;5;10).

As regards characteristic adaptations, both motivational and social-cognitive aspects have been investigated with respect to substance use. In motivational research, the focus has mainly been on specific drinking or drug intake motives, while generalized motives, such as purpose in life through various sources of meaning, have been largely ignored. Sources of meaning underlying human cognition, behavior and emotion in various areas of life (12). Sources of meaning implying selftranscendence, such as religiosity and spirituality, have repeatedly been linked to lower intake levels of alcohol and drug use (13). Other studies established positive relationships between high levels of consumption and a prioritization of socializing and fun (6).

Social-cognitive variables are often seen as central to the explanation of human behavior. Explicit mind-sets regarding outcome expectancy and capacity to manage consumption have been shown to predict alcohol consumption (14), with self-efficacy appearing as particularly important predictor (5;15;16).

Research employing integrative models of personality to predict alcohol and drug consumption is very rare, indeed. By using an integrative personality model, the present study aims to identify specific contributions of different levels of personality to the prediction of consumption among first term psychology students. Consumption of alcohol, tobacco and illicit drugs within the previous twelve months – thus before adaptation to the student milieu can have occurred – is assessed. Based on previous research findings, the following variables are included: the Big Five (neuroticism, extraversion, openness, agreeableness, and conscientiousness) as dispositional traits; religiosity, spirituality, community, and fun as sources of meaning, and substance-related self-efficacy as social-cognitive characteristic. Parsimonious models are developed for each of three substance groups known to be relevant among university student populations, i.e. alcohol, tobacco, and illegal drugs. Reliable and valid scales are used throughout.

**Method**

**Procedure**

In order to maximize confidence in data anonymity, two sets of questionnaires were employed, one as paper-and-pencil version, one online. All substance use related measures were completed in paper-and-pencil format, thus avoiding data transfer via IP-addresses. Personality variables were subsequently assessed through an online questionnaire. Participants were assured that their responses were strictly confidential; neither names, nor birth dates or e-mail addresses were recorded. Participants who completed both the
paper-and-pencil and the online questionnaire received course credit.

Participants
In the second week of their first term, 190 psychology students in an introductory lecture class were invited to complete the paper-and-pencil questionnaire set. Participation was voluntary; the return rate was 100%. Participants were invited to subsequently fill in the online questionnaire at a time convenient to them. Altogether, 130 participants (81% women) completed both questionnaire sets. The ensuring recruitment rate of 68.4% is considerably higher than in other studies among this population (17). In the final, complete sample, participants ranged in age from 18 to 40 (Mean = 21, Standard Deviation = 3).

Measures
Alcohol consumption
Hazardous alcohol consumption was assessed by use of the AUDIT-C, a questionnaire comprising the first 3 items of the Alcohol Use Disorders Identification Test (AUDIT) (18). This brief screening instrument measures frequency and quantity of alcohol use, as well as heavy episodic drinking on a 5-point Likert scale from 0 to 4, resulting in a sum score ranging from 0 to 12 with higher scores indicating more harmful alcohol consumption. A recent review reports sufficient reliability (Cronbach’s α between .56 and .91); various studies declare sensitivities and specificities in the .80’s and .90’s for different cut-off points and indices of problematic drinking (19). In the present study, the cut-off point for hazardous consumption is set to ≥ 5 for men and ≥ 4 for women.

Tobacco smoking
With a single-item question, participants were asked whether they smoke tobacco. In smokers, severity of nicotine dependence was measured by the 6-item Fagerström Test for Nicotine Dependence (FTND) (20). Sum scores range from 0 to 10, and scores ≥ 6 indicate heavy smoking (21). A systematic literature review (22) found retest reliabilities between .65 and .91, α from 0.55 to 0.74, as well as moderate associations of the FTND sum score with various measures of nicotine dependence.

Illicit drug use
A 9-point single-item assessed frequency of illicit drug use in the last 12 months (0: never; 1: once; 2: two to five times; 3: six to nine times; 4: ten to 19 times; 5: 20 to 59 times; 6: 60 to 99 times; 7: 100 to 199 times; 8: more than 200 times), and ten categories referred to the types of drugs that were consumed (cannabis, cocaine, crack, amphetamines/stimulants/speed, ecstasy, heroin, methadone, other opiates, mushrooms, LSD) (23). Addiction severity in cannabis users was measured by the Severity of Dependence Scale (SDS) (23;24). Applied for cannabis, this 5-item questionnaire has shown average internal consistencies in the .80’s and satisfactory indices of validity; sum scores range from 0 to 15, and a cut-off ≥ 2 has proven useful (24).

Dispositional traits
The Big Five personality traits (neuroticism, extraversion, openness, agreeableness, conscientiousness) were measured by the 60-item NEO-Five Factor Inventory (NEO-FFI) (25).

Characteristic adaptations/sources of meaning
Sources of meaning were assessed by use of the Sources of Meaning and Meaning in Life Questionnaire (SoMe) (12;26). This 151-item inventory allows for a highly differentiated measurement of 26 sources of meaning, among them religiosity (religion and faith; 3 items; α = .86), spirituality (connection with a higher reality; 5 items; α = .75), community (close contacts, sense of friendship and family; 5 items; α = .81), and fun (pleasure and enjoyment; 6 items; α = .69). Sources of meaning scales quantify the degree of realization for each of the 26 orientations. All items are statements rated on a scale from 0 (strongly disagree) to 5 (strongly agree). The SoMe construct, discriminant, factorial, and incremental validity have been demonstrated in numerous studies (12;26;27).

Characteristic adaptations/substance-related self-efficacy
Self-efficacy was operationalized by a 10-point single item asking how confident a person is that she or he can manage potential problems with regard to alcohol, tobacco or drug use from 1 (not at all confident) to 10 (very confident).

Data analysis
Data were entered into a computerized database and statistical analyses were performed with IBM SPSS Statistics, Version 21. Based on Mahalanobis distance, two multivariate outliers were detected and deleted. Descriptive results are provided as frequencies and percentages, means (M) and standard deviations (SD), as well as medians (Md) and ranges. After calculation of Pearson product-moment correlation
coefficients, data were analyzed with hierarchic multiple regression analyses. Independent variables were included on the basis of their bivariate correlation with the dependent variable. A two-tailed p-value < 0.05 was considered statistically significant. Because the number of smokers who completed the FTND was relatively low, only the binary variable (smoking/non-smoking) was used in the following analyses as well as logistic regression. Frequency of drug use in the last 12 months was moderately positively skewed and thus square-root transformed; substance-related self-efficacy was strongly negatively skewed and thus inverted for further analyses.

In multiple regression, beta weights indicate the predictive importance of independent variables, while the other predictors are held constant. R-squared indicates the proportionate amount of variation in the dependent variable explained by the predictors. F-values determine the statistical significance of the different models.

In logistic regression, regression coefficients indicate the relationship between an independent variable and the dependent variable (on the logit scale), while the other predictors are held constant. The Wald test determines statistical significance of these regression coefficients. Nagelkerke’s R-squared indicates the proportionate amount of variation in the dependent variable explained by the predictors. Chi-squared values determine the statistical significance of the different models.

Results

M and SD for consumption measures are displayed in Table 1. Mean Audit-C scores indicate a high frequency of hazardous drinking, with 67% (82/122) scoring above the cut-off (88% [21/24] of the men, and 62% [61/98] of the women). Thirty-eight percent (48/127) of the participants were smokers, though only 4% (2/48) of them counted as heavy smokers. Thirty-three percent (45/128) had consumed illicit drugs in the previous year; 41 out of these had used cannabis; three had additionally used amphetamines/stimulants/speed, one additionally cocaine, and one only amphetamines/stimulants/speed. Twenty percent of the participants using cannabis (8/41) scored above the SDS cut-off for cannabis dependence. Gender was significantly associated with drinking and drug use; men drank more and used more drugs. No relationships with age were established (Table 2). Hence, gender, but not age was included in subsequent multiple regressions.

Variables from all levels of personality were associated with alcohol consumption (Table 2). Among the dispositional traits, extraversion was related positively, neuroticism and conscientiousness negatively. Spirituality was negatively associated with drinking, but community and fun were related positively. Substance-related self-efficacy established a high negative correlation with alcohol consumption. The correlation pattern was dissimilar for smoking. Of the Big Five, only conscientiousness was negatively related to smoking, as was substance related self-efficacy. Drug use showed a different correlation pattern, again. It was positively associated with openness, negatively with conscientiousness, religiosity, and spirituality.

In a subsequent step, personality variables significantly related to consumption were included in hierarchic multiple regression analyses to predict substance use parsimoniously.

Predicting alcohol consumption

Male gender predicted alcohol consumption in the first step, but lost its predictor weight when dispositional traits were entered in the second step. Of these, conscientious-

---

Table 1 Descriptive statistics for all variables; Mean(Median), Standard Deviation SD, Range, N

<table>
<thead>
<tr>
<th>Variable</th>
<th>M(Md)</th>
<th>SD</th>
<th>Range</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit-C</td>
<td>4.72(5)</td>
<td>2.22</td>
<td>0-12</td>
<td>122</td>
</tr>
<tr>
<td>FTND</td>
<td>1.61(1)</td>
<td>1.81</td>
<td>0-10</td>
<td>48</td>
</tr>
<tr>
<td>Drug use last 12 months</td>
<td>0.93(0)</td>
<td>1.67</td>
<td>0-8</td>
<td>127</td>
</tr>
<tr>
<td>SDS</td>
<td>0.82(0)</td>
<td>1.50</td>
<td>0-15</td>
<td>41</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>1.91</td>
<td>0.67</td>
<td>0-4</td>
<td>128</td>
</tr>
<tr>
<td>Extraversion</td>
<td>2.16</td>
<td>0.49</td>
<td>0-4</td>
<td>128</td>
</tr>
<tr>
<td>Openness</td>
<td>2.68</td>
<td>0.56</td>
<td>0-4</td>
<td>128</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>2.75</td>
<td>0.53</td>
<td>0-4</td>
<td>128</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>2.52</td>
<td>0.53</td>
<td>0-4</td>
<td>128</td>
</tr>
<tr>
<td>Religiosity</td>
<td>1.28</td>
<td>1.30</td>
<td>0-5</td>
<td>128</td>
</tr>
<tr>
<td>Spirituality</td>
<td>2.46</td>
<td>1.11</td>
<td>0-5</td>
<td>128</td>
</tr>
<tr>
<td>Community</td>
<td>3.89</td>
<td>0.82</td>
<td>0-5</td>
<td>128</td>
</tr>
<tr>
<td>Fun</td>
<td>3.62</td>
<td>0.81</td>
<td>0-5</td>
<td>128</td>
</tr>
<tr>
<td>Substance-related self-efficacy</td>
<td>8.60(9)</td>
<td>1.93</td>
<td>0-10</td>
<td>125</td>
</tr>
<tr>
<td>Age</td>
<td>21</td>
<td>3</td>
<td>18-40</td>
<td>128</td>
</tr>
<tr>
<td>Sex</td>
<td>Women: 81%; Men: 19%</td>
<td></td>
<td></td>
<td>128</td>
</tr>
<tr>
<td>Smoking yes/no</td>
<td>Yes: 38%; No: 62%</td>
<td></td>
<td></td>
<td>127</td>
</tr>
</tbody>
</table>

1AUDIT-C: Alcohol Use Disorders Identification Test, subscore for risky alcohol consumption;
2FTND: Fagerström Test for Nicotine Dependence;
3SDS: Severity of Dependence Scale
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Table 2 Correlates of alcohol, tobacco and drug consumption

<table>
<thead>
<tr>
<th>Variable</th>
<th>Alcohol (Audit-C)</th>
<th>Smoking (no/yes)</th>
<th>Drug use (transf.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>.21*</td>
<td>.38***</td>
<td></td>
</tr>
<tr>
<td>Neuroticism</td>
<td>-.22*</td>
<td>.38***</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.27**</td>
<td>.09</td>
<td>-.13</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.10</td>
<td>-.04</td>
<td>.03</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.29**</td>
<td>-.23**</td>
<td>-.30***</td>
</tr>
<tr>
<td>Religiosity</td>
<td>-.10</td>
<td>-.08</td>
<td>-.19*</td>
</tr>
<tr>
<td>Spirituality</td>
<td>-.28**</td>
<td>.00</td>
<td>-.18*</td>
</tr>
<tr>
<td>Community</td>
<td>.20*</td>
<td>.04</td>
<td>-.01</td>
</tr>
<tr>
<td>Fun</td>
<td>.37***</td>
<td>.12</td>
<td>.14</td>
</tr>
<tr>
<td>Substance-related self-efficacy (transf.)</td>
<td>-.39***</td>
<td>-.41***</td>
<td>-.16</td>
</tr>
<tr>
<td>Sex</td>
<td>.32***</td>
<td>.06</td>
<td>.28**</td>
</tr>
<tr>
<td>Age</td>
<td>.00</td>
<td>.08</td>
<td>.00</td>
</tr>
</tbody>
</table>

* = p < .05. ** = p < .01. *** = p < .001
1AUDIT-C: Alcohol Use Disorders Identification Test, subscore for risky alcohol consumption;
2FTND: Fagerström Test for Nicotine Dependence;
3SDS: Severity of Dependence Scale;
4Sex: Women = 1; men = 2

Incremental explanation of variance was achieved through further inclusion of sources of meaning in a third step, and substance-related self-efficacy in a fourth step. The final parsimonious model to predict alcohol consumption identified three major predictors of reduced intake: On the level of dispositional traits, conscientiousness appeared as a barrier to excessive drinking. Spirituality had an additional influence on alcohol consumption independent of conscientiousness, with more spiritual individuals drinking less. Over and above both conscientiousness and spirituality, the cognitive expectancy to be able to manage substance intake contributed to lower consumption levels. Altogether, 37% of variance in alcohol consumption was explained by personality variables (Table 3).

Table 3 Hierarchical regression of Audit-C scores on different levels of personality

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable(s) entered</th>
<th>β</th>
<th>β</th>
<th>β</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sex</td>
<td>.34***</td>
<td>.18</td>
<td>.15</td>
<td>.15</td>
</tr>
<tr>
<td>2</td>
<td>Neuroticism</td>
<td>-.16</td>
<td>-.15</td>
<td>-.14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Extraversion</td>
<td>.18</td>
<td>.04</td>
<td>.06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conscientiousness</td>
<td>-.32***</td>
<td>-.31***</td>
<td>-.28**</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Spirituality</td>
<td>-.26***</td>
<td>-.25**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Community</td>
<td>.12</td>
<td>.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fun</td>
<td>.15</td>
<td>.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Substance-related self-efficacy (transf.)</td>
<td>-.17*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Model F 14.91*** 9.26*** 8.48*** 8.24***

AUDIT-C: Alcohol Use Disorders Identification Test, subscore for risky alcohol consumption.

Predicting smoking

Twenty-five percent of variance in smoking/non-smoking was accounted for through personality variables. In a first step, conscientiousness was established as a negative predictor, explaining 7% of variance. When substance-related self-efficacy was entered, an additional 18% of variance was explained (Table 4).

Table 4 Logistic regression of tobacco smoking (no/yes) on different levels of personality

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable entered</th>
<th>Coeff.</th>
<th>Wald</th>
<th>Coeff.</th>
<th>Wald</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Conscientiousness</td>
<td>-0.95**</td>
<td>6.47</td>
<td>-0.66*</td>
<td>2.77</td>
</tr>
<tr>
<td>2</td>
<td>Substance-related self-efficacy (transf.)</td>
<td>-2.59***</td>
<td>15.68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nagelkerke’s R² .07 .25
Δ Nagelkerke’s R² .18
Model X² 6.93** 24.73***

* = p < .05. ** = p < .01. *** = p < .001
Predicting illicit drug intake

Male students used slightly more drugs than females. Dispositional traits explained further variance, with openness predicting higher, and conscientiousness lower intake levels. Inclusion of sources of meaning in a third step resulted in an additional increase of R², with religiosity as the single significant negative predictor. The final parsimonious model explained 29% of variance in amount of drug use through specific contributions of openness as positive predictor and conscientiousness and religiosity as negative predictors (Table 5).

Discussion

The present study offered an empirical implementation of an integrative model of personality to predict alcohol, tobacco, and drug consumption levels among future psychologists. As predictors, relatively stable and decontextualized personality dispositions were complemented with sources of meaning and substance-related self-efficacy, representing more malleable characteristic adaptations. Patterns of correlation with personality variables differed for the three substances. Three respective hierarchic multiple regressions established partly similar, partly different predictors, which explained 25% of variance in smoking, 29% of variance in illicit drug use, and as much as 37% of variance in alcohol usage.

Among dispositional traits, conscientiousness proved to be the most influential characteristic. Future psychologists who were thorough, dependable and disciplined drank less. They also used fewer drugs and were less likely to be smokers (whereas the latter effect was partly overwritten by substance-related self-efficacy).

These findings tie in with a meta-analysis by Kotov and colleagues (28), which established conscientiousness as the strongest personality predictor of substance abuse disorder. Also Loukas and co-authors (29) showed that all Big Five personality traits, conscientiousness had the strongest association with a limitation of drinking behavior out of concern for performance at school, work, or in the family. Our data thus support and extend observations regarding the important role of conscientiousness in the prediction of health behaviors and mortality (28).

Openness was established as a positive predictor of drug use, which predominantly meant use of marijuana. The link between marijuana use and a high estimation of new experiences, change, and awareness seems to indicate that the users understood marijuana to be a means to experiment with consciousness-modulation or to expand their horizon. While a positive correlation between openness and marijuana use has also been found elsewhere (30), openness is not a typical personality marker of those suffering from substance use disorder (28). The students’ use, in the present study, might therefore constitute a temporary phase of exploration.

As evidenced by hierarchic regression analyses, sources of meaning have specific impacts on alcohol and drug intake over and above dispositional traits. Considering the final parsimonious models, two sources of meaning were of particular importance: Spirituality was associated with reduced alcohol consumption, and religiosity with reduced drug consumption. Spirituality was operationalized as a subjective belief in a supernatural reality. Psychology students who choose a spiritual way of life might be especially motivated to act mindfully, thus eschewing mood modulation through excessive use of alcohol. Religiosity was operationalized as high importance of religion and a sustaining belief in God. Due to their appreciation of a tradition of norms and creeds, religious psychology students might be especially cautious not to violate regulations – and therefore refrain from the use of illegal substances. The results highlight the necessity to distinguish between concepts of spirituality and religiosity, especially in cultures of decreasing religious attachment (31).

For both alcohol and tobacco, substance-related self-efficacy had incremental predictive power after including dispositional traits and sources of meaning, thus emphasizing the potential of the mind to guide behavior, even in contradiction to personal dispositions. The fact

### Table 5: Hierarchical regression of drug use on different levels of personality

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable(s) entered</th>
<th>β</th>
<th>β</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sex²</td>
<td>.28**</td>
<td>.20*</td>
<td>.15</td>
</tr>
<tr>
<td>2</td>
<td>Openness</td>
<td>.29***</td>
<td>.34***</td>
<td>-.25**</td>
</tr>
<tr>
<td>3</td>
<td>Religiosity</td>
<td>-.17*</td>
<td>.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spirituality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>.08</td>
<td>.23</td>
<td>.29</td>
<td></td>
</tr>
<tr>
<td>ΔR²</td>
<td></td>
<td></td>
<td>.06</td>
<td></td>
</tr>
<tr>
<td>Model F</td>
<td>10.43**</td>
<td>12.43***</td>
<td>9.84***</td>
<td></td>
</tr>
</tbody>
</table>

¹ women = 1; men = 2; * = p < .05. ** = p < .01. *** = p < .001
that substance-related self-efficacy was not established as significant predictor for drug use might be due to the hypothetical experimental character of drug consumption in the present sample, with drug use linked to openness and, therefore, probably seen as a beneficial undertaking.

Remarkably, all significant personality predictors for alcohol and tobacco use were negative, indicating resources for prudent usage. We could tentatively hypothesize that reasons for hazardous drinking and heavy smoking among adolescents are largely environment-related (such as peer-group pressure, or life-events), while reasons against excessive drinking and smoking appear to be person-related (such as conscientiousness, religiosity, spirituality, and substance-related self-efficacy).

Limitations and suggestions for further research
With the simultaneous investigation of gender, dispositional traits, sources of meaning and self-efficacy, results from the present study are grounded as well as empirically embedded in an integrative model of personality. Given the complexity of such models, the selection of variables to be included is always partial. Future studies could consider further personality characteristics such as sensation seeking (5). Additionally, with bigger samples at hand, contextual influences should also be taken into account, both as direct predictors as well as potential moderators. Participants in the present investigation had just begun their course of study. Therefore, they had not been widely exposed to the student milieu, yet. Measures of drinking, smoking, and illicit drug consumption all referred to the 12 months before university entry. When assessing consumption levels among advanced students, adaptation processes of different degrees will have to be taken into account. Longitudinal studies, starting with university entry, will be especially informative with regard to clarifying the issue of changing consumption patterns in relation to different levels of personality.

Conclusion
Results indicate that some of the participating future psychologists, by disposition (conscientiousness), had fewer problems avoiding harmful substance use than others. Commitment to sources of meaning associated with selftranscendence constituted a further resource available for proactive, empowered management of substance intake. Therefore, future educational programs should highlight the importance of clarifying personal competence and commitments. Both can be decisive when it comes to dealing with potentially harmful stimuli, such as alcohol, tobacco, and drugs.

Acknowledgements
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Conception and design: TS, HK.
Acquisition of data: TS.
Analysis and interpretation of data: TS, HK.
Drafting the article: TS.
Revising the article critically for important intellectual content: TS, HK.
Final approval of the version to be published: TS, HK.

References

Research and Best Practice


Smoking cessation in pregnancy: An observational study

Pauline Kent1, Mette Jensen2, Rachel Reilly3, Amy McGowan1, Leanne Dineen1, John Williams4

Abstract

Background The primary objective of the study was to measure referral rates to a hospital smoking cessation service after introducing midwife-led brief advice on smoking cessation. The study also aimed to ascertain the proportion of pregnant women who smoke.

Method A cross sectional study was conducted in 2009-2010 in the antenatal clinic in a West of Ireland hospital with approximately 1500 births annually.

All pregnant women aged ≥16 attending the public Antenatal care Clinic, a total of 716 pregnant women were invited to take part in the validated smoking status screening involving a combination of urine Cotinine and Carbon monoxide breath testing. Brief intervention was offered to all women recorded as current smokers. Referral rate to the hospital smoking cessation service was calculated for the study period and compared to 2008 figures prior to introduction of brief intervention at the hospital.

Results 16% of pregnant women (n=114) were recorded as current smokers. The total number of attending referrals to the Smoking Cessation Service in the study period was 41, corresponding to a referral rate of 36% of current smokers. This represents an increase in the referral rate of 30% compared to 2008 when brief intervention was not routinely conducted in the antenatal setting.

Conclusions Brief intervention in the antenatal setting can achieve smoking cessation referral rates of about one third of smokers.

Implications for practice Staff at the antenatal clinic that encounters pregnant smokers should encourage uptake of smoking cessation services.

Introduction

Smoking in pregnancy is one of the leading preventable causes of adverse maternal and foetal outcomes (1). Smoking has been linked to preterm delivery, low birth weight, sudden infant death and poor lung function in infants (2-5). Lasting effects into childhood include higher risk of behavioural problems, asthma and obesity (5-7). There is growing evidence of an association between low birth weight and coronary heart disease, type 2 diabetes and obesity in adulthood (8). In addition to the well documented health impacts on smokers in general, the adverse effects of smoking to women of childbearing age include increased risk of complications during delivery and reduced fertility (1;9).

Smoking cessation during pregnancy can reduce the adverse effects to the infant, notably a reduction in the risk of low birth weight and preterm birth (10;11). In the US, up to 45% of women who smoke spontaneously quit before their first antenatal clinic (10;12). For those who continue to smoke, early access to smoking cessation interventions is important to maximise the potential quit rate. The effectiveness of smoking cessation interventions in pregnancy is well documented (10). These include behavioural and pharmaceutical interventions as well as measurement of foetal status and by-products of smoking. Biochemical validation of smoking status can in itself motivate pregnant women to quit spontaneously or to utilise available smoking cessation interventions (13;14).

Cluster randomised trials of smoking cessation interventions have shown weaker effectiveness than trials that applied individual randomisation. This may be due to reluctance by midwives to discuss smoking cessation at antenatal visits whilst establishing a relationship with the pregnant women (10). Pivotal to successful interventions at the antenatal clinic is...
therefore a sensitive approach, which protects the midwife to patient relationship.

In Ireland, 34–35% of women at child bearing age are current smokers (15). A cohort study of 11,100 families, found that 18% of expectant mothers reported having smoked at some point during pregnancy and 13% smoked throughout their pregnancy (16). A study published in 2011 reported smoking rates of 21% throughout pregnancy in a Dublin (Ireland) hospital (17).

Smoking cessation intervention programmes are available at Sligo Regional Hospital (SRH) to both in-hospital patients and those attending out-patient clinics. Prior to undertaking this study, the referrals to the hospital smoking cessation service (SCS) for pregnant smokers who attended the antenatal clinic at SRH were low (5%).

In this cross sectional study, we aimed to determine the referral rate to an established smoking cessation service following the introduction of routine midwife led brief advice on smoking cessation in the antenatal setting. A key secondary objective was to establish the validated point prevalence smoking rate in pregnant women at the first antenatal hospital visit.

Methods
Sample
All pregnant women >16 years of age booked in for their first antenatal clinic (around 20 weeks’ gestation) at Sligo Regional Hospital Ireland as a public patient from 12th October 2009 to September 1st 2010 were invited to take part in the study. Only women attending antenatal clinics at the hospital were included. The hospital operates off campus clinics based in rural locations and these were excluded. Participants received an invitation to the study with the appointment letter. Upon arrival at the antenatal clinic an information sheet was provided and informed consent sought for biochemical validation of smoking status.

Smoking status
A screening questionnaire is routinely given to all pregnant women at the first antenatal clinic. This includes self reported current smoking status. In addition to this, all consenting participants underwent expired air carbon monoxide (CO) test and urine cotinine test performed by midwives in the antenatal clinic. The CO test was performed using the Smokerlyser® pCO+ CO monitor, which provides a reading of the CO (ppm) in circulation and % foetal carboxy haemoglobin (FCOHb). The result was shared with the woman and visualised using a MaternityCOTM chart. CO content of 0–6 ppm was classified as non-smoker; 7–10 ppm light smoker; 11–19 ppm smoker and >19 ppm heavy smoker. Cotinine levels were measured by NicCheckTM I Rapid Dipstick Test. The result was shared with the woman and an interpretation guide used to explain the result. Cotinine content was classified as follows: 0 ppm non-smoker; 1–7 ppm light smoker and >7 ppm heavy smoker. The composite outcome measure of either self reported smoker or validated smoker by way of either positive CO or cotinine test was used to classify a woman as a current smoker.

Brief intervention
Prior to the commencement of this observational study, all midwives in the antenatal clinic underwent training in brief intervention for smoking cessation. The training was a one day manualised brief intervention for Smoking Cessation developed and accredited by the National Health Service Executive of Ireland. It was delivered on site by the Smoking Cessation Coordinator and involved motivational interviewing skills training specific to smoking cessation in pregnancy and post partum. The primary purpose of the training was to enhance and develop communication skills to enable midwives to engage with pregnant smokers in a non-confrontational and non-judgemental manner. In addition, practical skills training was delivered in CO & cotinine testing and on how to record and present individual results to the women. A brief intervention questionnaire was conducted pre and 3 months post training to evaluate how the training impacted on patient care. A refresher course was delivered five months into the study period.

The brief intervention was an approximately 5 minute motivational interview, which included health impacts of smoking, exploration of willingness to consider smoking cessation, information about the established smoking cessation service and provision of an information pack. The pack included a variety of information leaflets addressing life style change and smoking cessation, various smoke free trinkets and contact details for the intensive smoking cessation service. The established smoking cessation service is an on-site intensive one to one behavioural intervention available to patients at the hospital, including pregnant women and their partners. Brief intervention was offered to all women recorded as current smokers, both those who consented to validation of smoking status and those who were self reported as being smokers.

Referral rates and quit rates
The referral rate to the smoking cessation service is calculated as the percentage of self reported smokers in the antenatal setting who agree to a referral to the hospital smoking cessation service. The number of self re-
Smoking status

16% (n=114) were recorded as current smokers [95% CI 13-19]. 596 women were recorded as non-smokers (83%) and data was unrecorded for 6 women (1%). (See Table 1 and Figure 1).

Included in the non smoking category are 3 women, who spontaneously quit smoking when they found out they were pregnant. This point prevalence smoking rate is an increase of 4% compared with 2008 figures [95% CI 13-19]. 596 women were recorded as non-smokers (83%) and data was unrecorded for 6 women (1%). (See Table 1 and Figure 1).

Results

Smoking status

16% (n=114) were recorded as current smokers [95% CI 13-19]. 596 women were recorded as non-smokers (83%) and data was unrecorded for 6 women (1%). (See Table 1 and Figure 1).

Included in the non smoking category are 3 women, who spontaneously quit smoking when they found out they were pregnant. This point prevalence smoking rate is an increase of 4% compared with 2008 figures [95% CI 13-19]. 596 women were recorded as non-smokers (83%) and data was unrecorded for 6 women (1%). (See Table 1 and Figure 1).

Table 1 Smoking status of all pregnant women attending the public antenatal clinic in the study period.

<table>
<thead>
<tr>
<th>Smoking Status</th>
<th>% (95%CI)</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Smoker*</td>
<td>16% (13-19)</td>
<td>114</td>
</tr>
<tr>
<td>Non smoker</td>
<td>83% (80-96)</td>
<td>596</td>
</tr>
<tr>
<td>Unrecorded</td>
<td>1% (0-2)</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>716</td>
</tr>
</tbody>
</table>

*Composite measure of validated or self reported smoker

Ethical approval

Sligo Regional Hospital Research Ethics Committee approved the study.

Focus group

A focus group was held after the completion of the study with participation of antenatal midwives with a view to exploring learning points, challenges and recommendations for ongoing smoking cessation interventions.

Smoking status

16% (n=114) were recorded as current smokers [95% CI 13-19]. 596 women were recorded as non-smokers (83%) and data was unrecorded for 6 women (1%). (See Table 1 and Figure 1).

Included in the non smoking category are 3 women, who spontaneously quit smoking when they found out they were pregnant. This point prevalence smoking rate is an increase of 4% compared with 2008 figures [95% CI 13-19]. 596 women were recorded as non-smokers (83%) and data was unrecorded for 6 women (1%). (See Table 1 and Figure 1).

Table 2 Validated smoking status of the consenting self reported smokers.

<table>
<thead>
<tr>
<th>CO(ppm), category</th>
<th>n (%*)</th>
<th>Cotinine [ppm], category</th>
<th>n (%*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6, non smoker</td>
<td>33 (68%)</td>
<td>0, non smoker</td>
<td>22 (45%)</td>
</tr>
<tr>
<td>7-10, light smoker</td>
<td>7 (14%)</td>
<td>1-7, light smoker</td>
<td>24 (49%)</td>
</tr>
<tr>
<td>11-19, smoker</td>
<td>8 (16%)</td>
<td>&gt;7, heavy smoker</td>
<td>3 (6%)</td>
</tr>
<tr>
<td>&gt;19, heavy smoker</td>
<td>1 (2%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Denominator is 49
1-7]. Of the 86 women who consented to validated smoking status screening, 49 were self reported smokers. 65 (57%) of the self reported smokers did not consent. All self reported non smokers who consented were recorded as validated non smokers. Table 2 shows the screening results of the 49 self reported smokers who consented to validated smoking status.

Referrals to the Smoking Cessation Service
The total number of agreed referrals to the Smoking Cessation Service in the study period was 56 out of 114 smokers (49%). The women who agreed to a referral were older, of higher socio-economic status and had a lower Fagerstrom score than the women who declined (Table 3).

The vast majority, n=53, were referrals from the antenatal clinic. The remaining three were women who contacted the SCS after the antenatal appointment. Of the 56 referrals, 41 women (73%) attended the SCS either in person or by phone consultation. This corresponds to an attending referral rate of 36% [95% CI 27-45] of current smokers (Figure 2) and represents an increase in the referral rate of 30% [95% CI 21-40] compared to 2008 figures (Odds ratio = 9.7; [95% CI 5-20]). A quit rate of 68% was achieved for the 41 women who attended the SCS.

Focus group
Four midwives participated in the focus group, which was facilitated by a student researcher and the smoking cessation officer at the hospital. The midwives identified staff shortages, reluctance on behalf of participants and change of practice as the main barriers to conducting the research study and in particular to obtaining of informed consent for the validated smoking status.

Discussion
The main result of our study was that brief intervention at the first antenatal visit can increase the referral rate to established smoking cessation services leading to a reduction in women who continue to smoke throughout their pregnancy. The brief intervention was integrated into routine clinical care and the results are likely to be transferable to other similar antenatal settings.

The study has several limitations. Firstly, the low consent rate of 12% compromised meeting the secondary objective of the study, namely ascertaining a validated point prevalence smoking rate. In the focus group, work pressures and reluctance on behalf of pregnant women...
to participate was highlighted as possible reasons for the low consent rate. A study in Glasgow has similarly showed that booking midwives found it difficult to implement CO measurement (18). The point prevalence smoking rate of 16% observed in this study is therefore effectively a self-reported smoking rate. This result is consistent with the findings of the “Growing up in Ireland” findings (16). Secondly, selection bias may have influenced the outcome. Women attending the outlying clinics may have characteristics different to the urban population, thus affecting the smoking rate. Thirdly, social desirability bias is likely to have affected the smoking prevalence estimate as some smokers may not have admitted to their habit. Overall, we believe the recorded smoking prevalence rate to be an underestimate of the true figure, primarily due to the unvalidated smoking status. Other studies have found self-reported smoking rates to be less than validated rates (10;19). Fourthly, the use of the referral rate to the smoking cessation service is used as surrogate outcome measure for quit rates in the study sample. We believe using referral rate as the outcome measure is valid, as agreeing to a referral following a brief intervention is a first step in engaging with smoking cessation interventions.

There are a few likely reasons for the high proportion of self-reported smokers being classified as non-smokers following validation: The half life of CO is less than four hours in pregnant smokers due to the increased maternal metabolic rate and smoking may therefore not be detectable using this method alone (20). We did not determine the sensitivity of the cotinine test prior to the study. Cotinine’s clearance rate increases and its half life decreases to just less than 9 hours in pregnant women (21). All clinics were scheduled in the morning and light smokers and occasional smokers may therefore not have been detectable if they had not smoked that day. Furthermore, the cotinine cut-off points for each category of smoking intensity was based on non-pregnant smokers. Research has shown that, in pregnancy, cotinine levels are about half of what is seen in the same women after delivery with similar nicotine intake (21). Observer bias due to knowledge of self-reported smoking status may also have influenced the result.

The 30% increase in referral rate to the established smoking cessation service represents a dramatic improvement. The increase must be seen in light of the low base line referral rate of 5%. Most studies evaluating interventions for smoking cessation in pregnancy have quit rates as an outcome measure. We are therefore not aware of comparative figures for our study population, but a study in a primary care population also found a significant increase in referral rates after introduction of brief intervention (22). For two reasons, we believe the 36% referral rate achieved is an underestimate of what the intervention could have effectuated: Firstly, performing validated smoking status tests on pregnant women has been shown to increase uptake of smoking cessation interventions (13). Our low consent rate prevented this to have an additive effect to the brief intervention. Secondly, the high non-attendance rate to the SCS (and consequently the reduced attending referral rate) may in part be explained by the likely lower socio-economic status of the study participants as women of low socio-economic status have more barriers to smoking cessation (23;24).

The differences in the characteristics of the agreed and declined referrals reflects widely acknowledged evidence that younger, heavy smokers with a higher Fagerstrom score, in lower socio-economic groups are often classified within the Stages of Change module as being in pre-contemplation and therefore more difficult to support in the motivational process towards a behaviour change (25).

These results have implications for clinical practice. Brief intervention does have an effect on smoking cessation in mid pregnancy. However, early cessation, before 15 weeks gestation has been shown to have a major reduction in adverse outcomes in infants (11). Intervention before the first hospital antenatal visit at 20 weeks gestation would therefore be desirable, for example in the primary care setting. It is therefore imperative that all health professionals involved in antenatal care pay attention to smoking behaviour and encourage the uptake of smoking cessation interventions.

Conclusion
In conclusion, our study has shown that brief intervention by midwives in the antenatal setting can increase the referral rate to established smoking cessation services.
Acknowledgements
This study was supported by a grant from the Research & Education Foundation at Sligo Regional Hospital.

Competing interests
None declared.

References
Participants and Non-participants in the Scand-Ankle study - An alcohol cessation intervention at the time of fracture surgery

Marianne Aalykke¹, Erika Wernheden¹, Bolette Pedersen¹,², Julie WM Egholm¹,³, Bjørn L Madsen⁴, Jes B Lauritzen⁵, Hanne Tønnesen¹,²

Abstract

Background Clinical experience indicates that patients declining participation in randomised clinical trials (RCTs) at the time of surgery are older, less healthy and of lower social status than patients accepting to participate, compromising the external validity of the RCT and bringing the non-participants in higher risk at surgery. To our knowledge, no studies exist on patients with hazardous alcohol consumption who decline participation in RCTs at the time of surgery. The aim was to compare characteristics of the participants and non-participants in the Scand-Ankle RCT.

Method The Scand-Ankle study is a RCT that investigates the effect of a 6-week gold standard alcohol intervention (GSP-A) on postoperative complications in patients drinking >21 units/week and undergoing ankle fracture surgery. This study included eligible patients that declined to participate in the Scand-Ankle RCT but gave informed consent to follow-up in their medical record (N=67). Their perioperative patient characteristics were obtained from their medical record and the characteristics were compared to the patients enrolled in the study so far (N=61).

Results The baseline characteristics showed no differences between participants and non-participants, but some tendencies towards the non-participants being older, having severak co-morbidities and higher ASA scores. None of the variables of interest in relation to postoperative complications (age over 70 years, comorbidity, daily smoking, ASA scores, fracture type, BMI, alcohol) were significant predictors for non-participation.

Conclusion No differences were found between participants and non-participants and no patient characteristics could significantly predict participation.
Based on our own clinical experience and earlier studies, our hypothesis was that patients with hazardous alcohol consumption that declined participation in the Scand-Ankle trial had more preoperative risk factors than participants, making them subject to an even higher risk of developing postoperative complications.

**Method**

**Study design**

This is a descriptive study based on the non-participants and participants of the Scand-Ankle RCT.

**The Scand-Ankle RCT**

The Scand-Ankle trial is an ongoing RCT investigating the effect of a new 6-week gold standard alcohol intervention (GSP-A) on postoperative complications, alcohol intake and cost-effectiveness in hazardous drinking patients undergoing ankle fracture surgery. The study is conducted at two university hospitals in Copenhagen.

Patients are eligible for the study if the timeline follow-back (5) identifies an alcohol consumption in the patient of ≥21 units/week (one unit equals 12 g of ethanol) on average during the past three months, undergo ankle fracture surgery with internal fixation, and give informed consent within 36 hours from admission. Patients are excluded if they are under 18 years old or are unable to give informed consent, are pregnant or breastfeeding, are allergic to Disulfiram or Benzodiazepines, have previously experienced delirium or cramps during abstinence, have multiple or pathological fractures, or have an American Society of Anaesthesiologists physical status classification (ASA scores)≥4 (6) or fulminant heart or liver insufficiency.

The intervention group receives the 6-week GSP-A consisting of a structured patient education program with weekly meetings (5 in total), as well as Disulfiram (200 mg x 2 per week) and B-vitamin and Thiamin.

The control group receives the orthopedic department’s standard care for patients with ankle fracture and hazardous alcohol intake.

All participants are free to seek alcohol abuse treatment outside of the GSP-A. Both groups are followed up at 6 weeks where the patients would attend their routine X-ray and clinical control at the department.

**Inclusion and exclusion criteria**

Patients were included in this study if they were enrolled in the Scand-Ankle trial or were eligible but declined to participate in the Scand-Ankle trial at Hvidovre and Bispebjerg hospitals from April 2010 to December 2013. Patients were excluded if they declined to participate in the Scand-Ankle trial or did not give informed consent to follow-up via their medical record material.

**Data registration/Outcomes**

The primary outcomes were a comparison of baseline characteristics between participants and non-participants and predictors of being non-participant compared to participant.

The baseline characteristics were: age, sex, body mass index (BMI), daily smoking, alcohol (units per week), employment, living alone, ASA score (ASA score 1: a normal healthy patient; ASA score 2: a patient with a mild systemic disease; ASA score 3: a patient with a severe systemic disease), comorbidity (diagnosed: lung disease, cardiovascular disease, liver disease, psychiatric disorders, neurologic disorders, musculoskeletal diseases, diabetes) and fracture type. The predictors were all patient characteristic variables at risk of having a relation to the complication rate: age >70 years (7–10), daily smoking (9), ASA scores (6), comorbidity (lung, liver, heart diseases and diabetes) (6), alcohol ≥35 units/week (11), fracture type (12) and BMI (13). Only patient risk factors at baseline were chosen as predictors because the patients often were asked to participate in the trial preoperatively. The data of the non-participants and participants were collected from the patients’ medical record material.

**Analysis**

The patient characteristics were described using median and range for continuous data and number and percentages for categorical data. To detect if any complication rate risk factor could predict participation, univariate analyses (Chi-Square and Fisher’s exact test) and multivariate analyses (logistic regression) were performed on the predictive variables. Analyses were performed in IBM SPSS v. 19 and Excel 2010.

**Ethics**

The Scand-Ankle protocol was registered in ClinicalTrials.gov (id: NCT00986791). The project has been approved by the Danish Scientific Ethical Committee System (CVK: 0908664) and the Danish Data Protection Agency (28th of July 2009). The non-participant group in this study gave informed consent to follow-up via their medical record material.

**Results**

**Study groups**

A total of 141 patients were eligible for the Scand-Ankle trial in the period April 2010 to December 2013 at...
Hvidovre and Bispebjerg hospitals. 77 patients declined to participate and 64 were included in the Scand-Ankle trial. One withdrew consent after inclusion and two had their operations cancelled. Out of the 77 patients declining participation, 67 gave informed consent to follow-up via their medical record material. A total of 67 non-participants and 61 participants were included in this study (Figure I).

Figure 1 Trial profile

Baseline characteristics of participants vs. non-participants

Table 1 shows the baseline characteristics of the two groups. There were no differences between participants and non-participants, but some tendencies towards the non-participants being older, having more co-morbidity and higher ASA scores.

In the non-participant group 55% had co-morbidity, 57% had ASA score 2 and 9% had ASA score 3. In the participant group 44% had comorbidity, 49% had ASA score 2 and 5% had ASA score 3.

Predictors of non-participation compared to participation

Table II shows the variables of interest: age over 70 years, comorbidity (heart, lung, liver disease and diabetes), daily smoking, ASA scores, fracture type, BMI, and alcohol. None of the variables were significant predictors for non-participation in neither the uni- or multivariate analyses.

There was a tendency towards ASA score 3 being a predictor of non-participation (OR = 3.0; CI = 0.51-18.12).

Discussion

Baseline characteristics, participants vs. non participants

Contrary to our hypothesis, the non-participants did not have more preoperative risk factors than the participants.
Table 2 Predictors of non-participation compared to participation

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Univariate analysis</th>
<th>Multivariate analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Odds ratio (95% CI)</td>
<td>p-value</td>
</tr>
<tr>
<td>Age (≤70 vs. &gt;70)</td>
<td>1,31 (0,39 - 4,36)</td>
<td>0,766</td>
</tr>
<tr>
<td>Comorbidity' (- vs. +)</td>
<td>1,4 (0,63 - 3,05)</td>
<td>0,396</td>
</tr>
<tr>
<td>Daily smoking (- vs. +)</td>
<td>1,01 (0,49 -2,08)</td>
<td>0,977</td>
</tr>
<tr>
<td>ASA score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 vs. 2)</td>
<td>1,54 (0,74 - 3,20)</td>
<td>0,244</td>
</tr>
<tr>
<td>(1 vs. 3)</td>
<td>2,44 (0,55 - 10,82)</td>
<td>0,292</td>
</tr>
<tr>
<td>Fracture type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unimalleolar vs. bimalleolar</td>
<td>0,68 (0,12 - 1,44)</td>
<td>3,13</td>
</tr>
<tr>
<td>Unimalleolar vs. trimalleolar</td>
<td>0,86 (0,29 – 2,54)</td>
<td>0,785</td>
</tr>
<tr>
<td>BMI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal vs. underweight</td>
<td>1,82 (0,15-21,61)</td>
<td>1</td>
</tr>
<tr>
<td>Normal vs. overweight</td>
<td>0,78 (0,35-1,76)</td>
<td>0,548</td>
</tr>
<tr>
<td>Normal vs. obese</td>
<td>1,21 (0,46-3,17)</td>
<td>0,695</td>
</tr>
<tr>
<td>Alcohol (21-35 vs. ≥35 units/week)</td>
<td>0,69 (0,33-1-42)</td>
<td>0,309</td>
</tr>
</tbody>
</table>

'Diagnosed lung, liver, heart, disease or diabetes.

There is an inconsistency between the number of patients with ASA score 2, ASA score 3 and the number of patients with co-morbidity in both groups. A possible reason could be that the ASA score was evaluated by an anaesthesiologist and sometimes a high alcohol consumption alone gave the patient an ASA score of 2 instead of 1. In the classification system, an exact alcohol amount is not defined, so it remains up to each anaesthesiologist to determine how large a weekly alcohol intake it takes to classify the patient as ASA score 2.

To our knowledge, this is the first study to compare participants and non-participants in an alcohol cessation intervention RCT at the time of surgery. Sparse literature is available on comparing participants with non-participants in lifestyle intervention RCTs at the time of surgery, but some studies have shown that non-participants in psychosocial intervention RCTs following surgery had lower socioeconomic status than the participants (14,15). One of these studies also found that the non-participants were older (15) and the other found no difference in age (14). In our study, there is a tendency towards the non-participants being older.

The non-participants’ alcohol intake is not different from that of the participants, indicating that patients with hazardous alcohol consumption might have the same reasons for declining participation in a RCT as patients with an alcohol use not exceeding the recommended limits.

Predictors of non-participation compared to participation

No patient characteristics that were related to the complication rate could predict participation. This indicates that at the time of inclusion, the non-participants did not have a higher risk at surgery compared to the participants. The Scand-Ankle participants appear to be representative of the patient population which we wished to investigate, in relation to factors relevant to the outcome i.e. postoperative complications.

Bias and limitations

The strength of this study is that almost all of the non-participants gave informed consent to follow-up via their medical record.

A limitation to this study is the missing information about the patient’s income, residence and educational level. Differences in these parameters could affect the applicability of the Scand-Ankle trial. Living alone and employment are socioeconomic factors present in this study and no differences in these parameters were found. A bias in this study is the missing registration of open fractures, which is related to a higher complication rate (7,8). Another bias is the risk of a type 2 error because of the number of participants. There was a tendency towards ASA score 3 (vs. ASA score 1) being a predictor of non-participation, but it would demand a study group of 328 patients to show a significant association.
Perspectives
A survey about the patient’s reasons for not participating could be of great interest especially for alcohol intervention studies in relation to surgery. An interview study about patient opinion was performed before the start of the Scand-Ankle trial and showed that nearly half of the patients were ready to participate in an alcohol intervention and all the patients found the Scand-Ankle trial to be relevant in relation to surgery. Interviews of reasons were not performed in the study (16). The challenge of patient inclusion in lifestyle interventions in an acute surgical setting is shown through the interview study, the inclusion rate in the Scand-Ankle trial and experiences from a smoking cessation intervention at the time of ankle fracture surgery with an inclusion rate of 35% (17).

Once the Scand-Ankle study is finalised, the complication rate among the Scand-Ankle patients will be evaluated, and it would be relevant to compare the complication rate of the non-participant with the Scand-Ankle control group and intervention group, since it has been suggested that there exists a beneficial “trial effect” by participating in RCTs (18;19).

The GSP-A has already shown to be cost-effective (20) and significantly more patients in the intervention group (58%) were abstainers than in the control group (13%) (20). Another result from the Scand-Ankle study is that the GSP-A had no effect on smoking cessation or any other lifestyle risk factor, suggesting that a potential effect on postoperative complications is related to the alcohol intake.

Conclusion
No differences were found between participants and non-participants and no patient characteristics related to the complication rate could predict participation.

Acknowledgement
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Contribution details
Conception and design: MA & HT
Acquisition, analysis and/or interpretation of data: All
Drafting the article: MA
Revising and approving the article: All

Competing interests
None declared

References
(3) Mant D. Can randomised trials inform clinical decisions about individual patients? Lancet 1999; 9154:353.
Tobacco and Vascular Surgery

Mette Kehlet

Background
Smokers have a higher risk of postoperative complications than non-smokers. When smoking cessation is initiated 4-6 weeks prior to surgery, postoperative complications are reduced significantly. Also smoking cessation on the day of surgery in orthopedic surgery has shown significant reduction in complications. A trial assessing the effect of smoking cessation on the day of surgery in soft-tissue surgery has never before been performed. Therefore a randomized controlled trial was set up assessing this issue.

Studies
An observational cohort study using data from the Danish Smoking Cessation Database was set up to evaluate the effect of the Gold Standard Program (GSP) for smoking cessation on participants older than 60 years compared to the participants under 60 years. The participants over 60 years had a continuous abstinence rate of 37% after 6 months compared to an abstinence rate of 35% for participants under the age of 60 years (p<0.05).

A logistic regression analysis showed that the independent factors affecting continuous abstinence rates were: living with another adult, prior professional recommendation, being compliant with program and being non-smoker at the end of the program. To evaluate the effect of smoking cessation on the day of surgery on postoperative complications, a randomized clinical trial was designed. The trial included patients undergoing peripheral vascular surgery and who were daily smokers. Patients were either randomized to attend the GSP for smoking cessation or the standard care of the department. Postoperative complications after 30 days were recorded as were the patients smoking cessation rates after 6 weeks. We did not succeed in recruiting the number of patients pre-specified in the power calculation within a reasonable time period. Based on the limited number of patients we did include, we could not show any difference between the intervention and the control group, neither in postoperative complications nor smoking cessation.

To characterize the risk factors for developing a postoperative complication within 30 days after peripheral vascular surgery an observational cohort study was set up using data from the national Danish Vascular Registry.

We especially wanted to assess whether we could detect a significant difference in complication rate between smokers and former smokers. A total of 3202 open surgical procedures were identified between 2005-2012 at Rigshospitalet and Gentofte Hospital. There was an overall complication rate of 30% distributed as 19% wound complications, 6% surgical complications and 10% general complications. A multivariate regression analysis showed that the factors enhancing the risk for postoperative complications were; being an octogenarian, having known heart- or renal disease, being rated high ASA-score and being operated on in general anesthetics. No difference was found in complication rates between smokers and former smokers.

Conclusion
The elderly have a higher continuous abstinence rate – or at least not lower - than the younger participants in the GSP for smoking cessation. It is important for health professionals to inform on the hazards of smoking and ways to quit since this enhances the success for smoking cessation as well as optimizing the programs.

If another RCT is to be set up assessing the effect of smoking cessation on the day of surgery in the vascular patient population, it is important to acknowledge the relatively low inclusion rate among eligible patients as well as to consider ways to ensure patient inclusion. It will probably be necessary to base such a trial on national participation as well as including other vascular patient groups than only peripheral surgery or even other patient groups undergoing soft tissue surgery.

Patients undergoing peripheral vascular surgery have a high number of postoperative complications of 30%. It is important to perform risk reduction when time allows reducing this risk. Some risk factors are non-modifiable and can only be taken into account in the greater picture, whereas heart- and renal disease are often modifiable, and optimizing the patients’ health status when time allows is mandatory.
Community obesity prevention – promoting community weight loss by using multiple strategies.

Chang Yu-Lan, Tseng Chun-Han, Hsieh Hung-Yu

Introduction
According to the results of the 2013 Nutrition and Health Survey in Taiwan (NAHSIT), 38.3% of adults are obese or overweight. When comparing the data to that of World Obesity Federation (2013), the percentage of obesity or overweight amongst Taiwanese adult males (45.9%) and children (29.4%) are the highest in Asia. As it is evident from these numbers, obesity is a serious problem in Taiwan. Keeping a healthy lifestyle and environment are the keys to overcome obesity issues. Therefore, it is necessary to change people’s eating habits and exercise frequency, as well as to transform their obesogenic-environment.

Purpose/Methods
Multiple strategies are used to promote obesity prevention: 1. Weight-loss motivation enhancement: (a) setting up an information center that provides body measurement and health counseling; (b) having a weight loss competition, where participants who measure weight regularly, attend lessons, or successfully lose weight are awarded. 2. Obesogenic-environment transformation: (a) assisting restaurants in serving low-calorie meals; (b) planning walking routes in the neighborhood; (c) posting nutrition and calorie-burning notices. 3. Health knowledge improvement: (a) offering participant telephone counseling once a month; (b) participants performing well in weight loss programs are awarded with BMI calculator tape, sport towels, etc.

Results
We held five series of weight-loss courses, planned two exercise walking trails, assisted ten restaurants in providing low calorie meals, and assisted eight communities and two schools in establishing self-controlling groups. 2,201 people joined the competition, and 1,874 people finished pre-tests and post-tests of weight measurement. There was a total weight loss of 3,883 kg in six months, and 108 people (5.8%) lost over 5% of their original weight.

Conclusions
Health care professionals engaged in community-based obesity prevention. We tried to create health awareness by setting up an information center and holding weight-loss competitions, thus, ameliorating people’s lifestyle habits and behaviors. Also, we provided counseling via telephone and built a virtual platform for people to exchange weight-control information and share their experiences. With the strategies mentioned above, we hoped to solve obesity problems and establish healthier lifestyles.

Comments
To keep an ideal body weight depends on living a healthy lifestyle. We used multiple strategies to promote community weight loss, including evoking awareness of self-health, and managing self-controlling groups with teamwork patterns, in order to enhance the effect of behavior changes. On this basis, we can shift obesity prevention issues from individuals to groups or, even communities and, by doing so, increase the willingness to engage in health promotion thus, achieving the purpose of community health promotion.

Contact: Chang Yu Lan
Cardinal Tien Hospital
No.362, Zhongzheng Rd., Xindian Dist.
23148 New Taipei City, TWN
lan78921@hotmail.com
Awareness on chronic obstructive pulmonary disease in the Slovenian general population

Farkas Jerneja, Lainscak Mitja

Introduction
Chronic obstructive pulmonary disease (COPD) is a major public health problem with implications beyond the patients and the healthcare system. Previous studies are scarce, but they have demonstrated that awareness about COPD is low. General public beliefs about chronic disease burden contribute to health policy activities, including prevention of COPD development, standards of care, and implications of novel management strategies. The objective of this study was to determine the level of awareness about COPD and its determinants in the Slovenian general population.

Purpose/Methods
This was a cross-sectional epidemiological study performed in 2013, when we organized COPD-related public events in several Slovenian cities. People visiting the activities were invited to complete a 22-item self-assessed questionnaire about COPD and its determinants. Data were analyzed using descriptive statistics and are presented as absolute numbers, proportions, or mean with standard deviation.

Results
The analysis included 1,172 subjects (mean age of 45 years, 43% men, and 18% current smokers). Overall, 50% reported to have heard about COPD, and 9% believed that COPD is a normal consequence of ageing. Dyspnea (84%) and cough (62%) were reported as most common symptoms, and smoking (85%) was recognized as the most important risk factor. 69% believed that COPD is treatable with drugs. When compared to other prevalent chronic diseases, COPD was always considered the least important one.

Conclusions
Public awareness and knowledge about COPD is low, and COPD is not considered a relevant public health problem. Strategies to inform and educate the Slovenian public about COPD are, therefore, urgently needed.

Contact: Farkas Jerneja
National Institute of Public Health
Zaloska cesta 29, SI-1000 Ljubljana, Slovenia
jerneja.farkas-lainscak@nijz.si

Evaluation of the HPH-Catalunya Strategic Plan 2011-2014

Santiña Manel, Juvinýà-Canal Dolors, Simón Rosa, Briansó Maria, Ibáñez Rocío, Ballester Mònica, Monteis Jaume, Pérez Anna Carol, Serra Marisa, Romero Nené

Introduction
The Catalan HPH Network started its activities in 2008. Its mission is to lead the dissemination and implementation of HPH in the Catalan Region, promoting the incorporation of concepts, values, strategies, standards, and indicators in its organizational structure and culture. The Catalan Network is the only HPH Network in Spain. It is supported by the Health Promotion Chair of the University of Girona and the Public Health Department of the Catalan Government.

Purpose/Methods
This communication presents the final results of the Strategic Plan 2011-2014. In 2011, a strategic plan was designed for the period 2011-2014 with the main objective of accomplishing the HPH International Action Alan. At the end of this period, an evaluation was done. Taking into account the aims achieved, following the guidelines of the International HPH Strategic Plan, and using SWOT methodology, a new strategic plan has been designed.

Results
By the end of 2014, after four years since the creation of the first strategic work plan, from a total of 33 objectives, 30 have been achieved and three have been deleted. This means that by the end of the period 2011-2014, 91% of the objectives have been achieved. A new strategic plan has been elaborated for the period 2015-2018. It contains five lines of work and 31 objectives.

Conclusions
A strategic plan is a very good tool to achieve regional, national, and international health promotion objectives. The creation of the Strategic Plan 2011-2014 allowed the development, growth, and consolidation of the Catalan HPH Network. For these reasons, we recommend the use of strategic plans as a tool to effectively achieve in the health promotion actions of National and Regional HPH Networks.

Contact: Juvinýà Dolors
University of Girona
C/ Pic de Peguera, 17003 Girona, Spain
catedrapromocionalut@udg.edu
Manel Santiñà, Coordinator of the Regional HPH Network of Catalonia, Spain.

Accident prevention and treatment in preschools – a call from the hospital

Yochai Shlomit, Shkedy Debbie, Leonenko Marina, Zetland Ricki, Nemet Dan

Introduction
Accidents are a major threat to children’s health and welfare. About 40% of all admissions to the Pediatric ER and about 20% of pediatric hospitalizations are due to accidents. In the last 10 years, a downward trend in the number of children hurt by accidents has been noted in Israel. However, since preventing all accidents seems impossible, it is crucial to minimize injury after an event has occurred and to reduce long-term consequences of an injury by administering proper initial care.

Purpose/Methods
In order to improve knowledge and first aid skills among kindergarten teachers’ assistants, we developed a three and a half hour seminar, including frontal lectures and practical training. During the seminar, participants got acquainted with the hospital and lectures on prevention of accidents, common pediatric emergencies and their treatment and were taught basic life support. A survey including basic demographics as well as a knowledge and skill test was carried out before and after the seminar.

Results
270 kindergarten teachers’ assistants (age 48±10 years) were trained in our hospital. Only 67 of them (22.2%) had previous emergency training. Compared to pre-seminar, participants felt that their ability (on a scale of 1-6) to recognize emergency situations significantly improved (from 3.17 to 5.44, p<001), and so did their knowledge (2.63 to 5.38, p<001). Objective knowledge significantly improved (3.37 to 5.2, P<.001). Participants were highly satisfied with the course: 87% of them indicated that the training should be repeated yearly.

Conclusions
A single, short, joint hospital-community seminar on accident prevention and treatment significantly improved the knowledge and skills of kindergarten staff involved in children’s daily care. This may contribute to the prevention of accidents, reduction of injuries and disabilities, and it may even help to save lives. The project represents an overall systematic vision that includes community-hospital continuity.

Contact: Shkedy Debbie
Meir Medical Center
16 Etzyion Street, 44380 Kfar-Saba, Israel
shkedel.debi@clalit.org.il

Increasing awareness about the benefits of a periconceptional multivitamin containing folic acid among international migrant women

Toosi Ameneh, Hegadoren Kathy

Introduction
Strong evidence suggests that consumption of a folic acid supplement before and during pregnancy can reduce the risk of neural tube, cardiovascular, and limb defects. There are differences in our knowledge about the benefits of periconceptional folic acid supplementation between international migrant (54%) and Canadian-born (82%) women. Research also shows that international migrant women do not access preventative care, but they do access primary health care providers to seek care. We targeted primary health care providers to increase awareness in this population.

Purpose/Method
The aim of this study was to increase awareness for childbearing-aged international migrant women of the benefits of periconceptional folic acid supplementation. A randomized control trial pilot was performed in five community health centers to evaluate the effectiveness of an intervention on folic acid awareness for international migrant women aged 18-45. The intervention group received a pamphlet in English and their native...
A fitness self-tracking chart was created for employees to allow them to monitor their own progress and achieve their commitment and progress on a daily basis, and was provided good visibility, reminded employees about health information.

Contact: Toosi Ameneh
University of Alberta
681 McAllister Loop SW, T6W 1M6 Edmonton, Canada
atoosi@ualberta.ca

**Fitness self-tracking gave “ownership” to hospital employees**

Yen Ang, Ellena Chong, Chun Teik Lan, Ch’ng Keat Hui, See Wee Dee.

**Introduction**

About 50% of the employees in our hospital were found to be sedentary. To promote physical activity, we needed a tool to motivate the employees and at the same time allow them to monitor their own progress and achievement. Research evidence indicates that in the formation of a new health behavior, accountability is critical as it allows the individual to set goals, track his/her progress, and – finally – celebrate his/her achievements.

**Purpose/Methods**

A fitness self-tracking chart was created for employees for their weekly exercise participation over a three-month period. One giant chart was given to every department whose employees wished to participate. An inter-departmental competition was held, where the department with the highest number of employees achieving the goal would win. The goal was to have each participant exercise at least three times a week. Using the chart, employees entered the number of times they exercised each week, either on their own or when they joined any of our planned fitness programs.

An email was sent out to all staff once a week to remind them to time their exercise and to motivate them to continue to exercise. Once every two weeks during the meeting of the Department managers, an update of the progress of the participating departments and individuals was presented.

**Results**

Out of 1100 employees, the fitness tracking campaign attracted almost one in every three employees (31.6%) or 348 employees at the hospital.

A total of 33 out of 58 departments (57%) participated in the activity. The total number of employees who achieved the goal (exercise three times or more per week during the three-month period) was 207, or 59% of those who enrolled in the tracking activity, or 19% of all employees at the hospital.

**Conclusions**

The interdepartmental competition helped foster a sense of camaraderie within the department where everyone was accountable to each other. The competition added elements of excitement and fun. The giant tracking chart provided good visibility, reminded employees about their commitment and progress on a daily basis, and was a great subject for conversation. The high participation rate indicates that our campaign was a success.

**Comment**

The fitness self-tracking chart serves as more than a tool of accountability. To allow employees to track their own exercise progress and then reward them based on self-reporting is a matter of trust. And such a trust gives rise to empowerment. When employees were given ownership of their own fitness, they tended to be more motivated to exercise, as seen in the success of our work.

Contact: Ang Yen
Penang Adventist Hospital
465, Jalan Burma, Georgetown
10350 Pulau Pinang, Malaysia
yenang@pah.com.my
The role of hospital-established medical fitness centers in promoting physical health

Toh Yoon Wong, Kusuoka Satoshi, Murata Hirohiko, Yuko Tanaka

Introduction
Worldwide obesity is an issue of concern, and although Japan has one of the lowest obesity rates in the world, it is an increasing trend among the male population. Obesity is associated with a variety of complications, such as cardiovascular disease, type 2 diabetes, steatosis, and cancer. Our hospital established a medical fitness center in June 2009, which integrates physical exercise and fitness with disease management and prevention, working closely with healthcare professionals from the hospital.

Purpose/Methods
Data was collected from 100 members who used the center’s facilities for more than two months. Fitness programs include group exercise classes such as aerobics, stretching, walking, balance training etc. The center also provides individual exercise programs tailored to each member. Changes in body weight, body mass index (BMI), blood pressure, body fat percentage, and muscle mass percentage were analyzed.

Results
Average age was 62 years with the majority of users being female (80%). Members used the fitness center at an average frequency of 11 times per month. Statistical analysis showed significant improvements in physical parameters such as body weight, BMI, body fat percentage, and mean arterial pressure after an average period of 29 months. Furthermore, improvements in body weight were significantly correlated to the frequency of use after adjusting for age and gender.

Conclusions
Our hospital-established medical fitness center is shown to be effective in improving the physical health of its members. Since more than 75% of members are above the age of 50, and almost 60% of members have some chronic disease (with cardiovascular disease being the most frequent), having the support of healthcare professionals nearby while exercising provides safety while promoting physical activity.

Contact: Toh Yoon Wong
Hiroshima Kyoritsu Hospital
Hiroshima-shi Asaminami-ku Nakasu 2-19-6, Japan
easybs@hotmail.com

Supporting smoking cessation in pregnancy

Pauline Kent

Introduction
In 2008 at Sligo Regional Hospital (SRH), Ireland, 1716 pregnant women attended the first antenatal clinic of whom 12% self-reported to smoke. In this group of smokers, 5% were referred to the smoking cessation service offering intensive smoking cessation therapy. In this cross-sectional study, we aimed to determine the referral rate to an established smoking cessation service following the introduction of routine midwife-led brief advice on smoking cessation and validated smoking status testing in the antenatal setting in 2009. A key secondary objective was to establish the validated point prevalence smoking rate in pregnant women at the first antenatal hospital visit.

Purpose/Methods
All pregnant women > 16 years of age who were booked in for their first antenatal clinic at 20 weeks gestation at SRH as a public patient from October 2009 to September 2010 were invited to take part in validated smoking status screening involving a combination of urine Cotinine and Carbon monoxide breath testing. Brief intervention was offered to all women recorded as current smokers. Referral rate to the hospital smoking cessation service was calculated for the study period and compared to 2008 figures prior to the introduction of brief intervention at the hospital.
Results
16% of pregnant women (n=114) were recorded as current smokers [95% CI 13-19]. This point prevalence smoking rate is an increase of 4% compared with 2008 figures [95% CI 1-7]. The total number of attending referrals to the Smoking Cessation Service in the study period was 41, corresponding to a referral rate of 36% of current smokers. This represents an increase in the referral rate of 30% compared to 2008, when brief intervention was not routinely conducted in the antenatal setting.

Conclusions
Our study demonstrated that brief intervention at the first antenatal visit can increase referral rates to established smoking cessation services leading to a reduction in women who continue to smoke throughout their pregnancy.

Comments
The 30% increase in referral rate to the smoking cessation service represents a dramatic improvement. The increase must be seen in light of the low baseline referral rate of 5%. Most studies evaluating interventions for smoking cessation in pregnancy have quit rates as an outcome measure. We are, therefore, not aware of comparative figures for our study population, but a study in a primary care population also found a significant increase in referral rates after the introduction of brief intervention. Our study supports the introduction of brief intervention by midwives in the antenatal setting. Earlier intervention was a key recommendation from this study.

Contact: Kent Pauline
Sligo Regional Acute hospital setting
The Mall, Sligo, Ireland
pauline.kent@hse.ie

Reducing childhood obesity: Culturally adapted health coaching targeting high-risk groups

Sydhoff Jenny, Forsberg Birger, Werr Joachim, Landström Sofia, Sjöberg Emma

Introduction
There is a need to battle the increasing prevalence of childhood obesity, especially as it often persists into adulthood. Several risk factors, including overweight parents and socioeconomic factors (education, income, and living areas), influence childhood obesity prevalence. As treating obesity is complex and most treatments have a very limited success rate, prevention is the most effective strategy. Our objective was to reduce obesity prevalence and persistency by targeting high risk groups and promoting physical activity and healthy nutrition in families.

Purpose/Methods
Study design: Cluster randomized trial. Target groups: pregnant women and parents. Intervention: Culturally adapted health coach program: 1) Identifying families with high risks of developing childhood obesity; 2) Culturally adapted education and motivational coaching in Somali, Arabic, Syrian, English, Spanish, and Swedish; 3) Co-creation with local health care partners; 4) Cooperation and coordination of community partners (NGOs, day cares, etc.); 5) Iterative evaluation, follow-up, and adjustments of the health coach program based on effectiveness, satisfaction, and demand.

Results
At one year follow-up, over 80% of families had increased their respective physical activity level by 30-40%. 60-70% of families now meet the one hour/week exercise target (30% at baseline). 90% report increased consumption of vegetables, and 65% report a reduction in sweet drinks served. Pregnancy weight gain is on average 7.3 kg (35% less than in the matched control group). Parents’ mean weight reduction is 6.2 kg. To measure the prevalence of childhood obesity will require more data collection.

Conclusions
• The health coaches offer unique possibilities to support behavioral change across socio-cultural groups
• Providing support adapted to culture and language and co-operating with NGOs can engage groups that do not normally participate in health promotion
• Pedagogical and visual aids are a highly effective prevention tools, and they can quickly be diffused and adopted when co-developed with health professionals and citizens
• Co-creation and engagement create a demand for the health coach offer, where families actively seek to participate, contribute, and mobilize their family members.

Contact: Sjöberg Emma
Health Navigator
Sveavägen 63, 11359 Stockholm, Sweden
emma.sjoberg@healthnavigator.se
Meeting a whole new world - the experiences of minority parents of children with disabilities in Norway

Aud Eva Tjønneland*, Erik Skjeggestad**, Karen Therese Sulheim Haugstvedt**
*Oslo community, Norway, **National HPH secretary, Akershus University Hospital, Norway

Introduction
The stress and burden on parents of children with disabilities are well-documented. Being both part of a minority group and disabled is in policy documents described as a “double minority status”. There is still little knowledge in this field. Based on our positive results with developing and conducting a counselling educational group-based programme for Norwegian parents, we wanted to find out more about how the ability to handle life could become better also in minority families in Norway.

Purpose / Methods
Our purpose was to develop more knowledge of how minority parents of children with disabilities experienced their situation. The qualitative study was based on modified Grounded Theory. We conducted qualitative in-depth interviews in the homes of eight families from five different countries. The main questions were: “How do minority parents relate to their own feelings and to the child?” and “How do they relate to other close relationships and to the supporting systems?”

Results
The core theme of the study became Meeting a whole new world developed from the four categories pointing to four different aspects of the core category. The first two categories were “To suppress their own emotions and reactions” and “Understanding what disability means”, illuminating the first question. The last two categories were “To deal with the everyday practice” and “To deal with the supporting service”. These categories pointed to the second question.

Conclusions
The parents described their new situation as lonely and isolated. They felt that giving in to their own emotions was unhelpful; the child was their main focus. Being greeted with warmth and commitment from professionals was important, though. They shared most of their experiences with ethnic Norwegian parents. However, they explained how having a limited network, communication challenges, and little information on public services enhanced their problems. As professionals, we may contribute to parents’ understanding and handling of their new world.

Contact: Karen Theresa Sulheim Haugstvedt
Akerhus University Hospital
Centre for Health Promotion, 1478 Lorenskog, Norge
Karen.theresa.sulheim.haugstvedt@ahus.no

Call for abstracts for the 24th International HPH Conference in New Haven, Connecticut

The Scientific Committee for the International HPH Conference has now open for abstract submission. All abstracts should be submitted in English and have a topic of HPH-related good and best practice, concepts and research. The Scientific Committee would especially like to invite papers with a focus on one of the main conference topics or:

• Creating a Culture of Health through Innovation & Partnership
• Creating health promoting healthcare delivery systems through innovative partnerships in policy
• Health promoting organizational governance & delivery of care in partnership between professionals and clients
• Innovative health promoting direct service provision

Deadline for submitting abstracts is December 19, 2015

For more information and submission of abstracts:
http://www.hphconferences.org/abstract-submission/about-submission.html
Presentations on Health Promotion from around the world

In June 2015 the 23rd International HPH Conference took place in Oslo Norway. Under the title ‘Person-oriented health promotion in a rapidly changing world: Co-production – continuity – new media & technologies’, the conference attracted presenters and participants from 43 countries.

The 23rd HPH Conference was organized with great success by the Norwegian National HPH Network. The conference took place in Radisson Blu Plaza Hotel, with a range of side-events and visits in Oslo city and at Akershus University Hospital in the region of Helse-Øst of Norway.

This year, an impressive number of 712 persons participated in the conference and gave a total of 614 oral and poster presentations. In line with recent years, the conference attracted participants from all over the world, and like the previous years, the many participants brought home information and inspiration about the newest research, ideas, and projects regarding Health Promotion.

As the title suggest, the main theme for this year’s conference focused on people-centred healthcare.

Besides the many oral and poster presentations, the conference had four plenary sessions with the following sub-themes:
- The somato-psycho-social health needs of patients, staff and citizens
- The concept of co-production of health and its role for patient-centred care
- Improvements of people-centred healthcare by creating continuous and integrated care systems and
- Using new technologies to promote health.
At the gala dinner at the 23rd International HPH Conference, the 2015 HPH Awards were given to this year’s winners.

The purpose of giving out the HPH Award is to promote HPH visibility, recognize extraordinary fulfilment of WHO HPH standards, recognize extraordinary fulfilment of strategic goals and improve the number of published scientific articles.

The winners were:

- The International HPH Award for Outstanding Fulfilment of the HPH Strategy was given to the Regional Network of Catalonia, Spain.
- The International HPH Award for Outstanding Fulfilment of the WHO HPH Standards was given to Taiwan Adventist Hospital.
- The International HPH Award for Outstanding Scientific Publication was given to Lise N Søndergaard, Kim Overvad, Elisabeth L Andreasen, Lone B Rosenkilde, Anne-Mette Haugaard, Claus Dethlefsen and Jane Andreasen from Aalborg University Hospital for the article:
  
  Short- and long-term effect of a worksite group versus individual counseling on physical activity and dietary habits in moderately overweight hospital employees – a randomized controlled trial (Clin Health Promot 2017; 4::41-7.)

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21st Meeting of the HPH General Assembly

On June 10, 2015, the annual meeting of the HPH General Assembly took place in Oslo, Norway. Participants at the 21st Meeting of the HPH General Assembly were National/Regional HPH Coordinators, invited observers, and representatives from WHO/Europe and other partner organizations.

The delegates were updated on the progress of each of the core organizational bodies of the International HPH Network. The HPH Governance Board, the International HPH Secretariat and the HPH Task Forces all presented their work and efforts since the last meeting of the HPH General Assembly.

Amongst the topics of 21st Meeting was the vote on three amendments to the Constitution put forward by the Governance Board. The HPH General Assembly was also updated on issues related to the annual HPH conferences including financing and organisation. The process of hosting conferences was discussed and clarified for future International HPH Conferences.

Dr. Hans Kluge, Director of the Division of Health Systems and Public Health at WHO Regional Office for Europe endorsed the renewed Memorandum of Understanding between WHO and the International HPH Network. Dr. Kluge directed the attention so several areas where clinical health promotion and disease prevention activities had had an immense effect on both the benefit to the patients and the cost-effectiveness. Dr. Kluge expressed the recognition and appreciation of the dedicated work of all National/Regional HPH Networks as he accorded much of the success for the WHO/HPH partnerships to the HPH corporate members.
Amongst the key technical health issues on this year’s agenda were:

- Health 2020: Promoting intersectoral and interagency action for health and well-being
- The European Health Report 2015
- Priorities for health system strengthening in the European Region 2015-2020
- WHO European Region physical activity strategy 2016-2025
- Roadmap of actions to strengthen the implementation of the WHO Framework Convention on Tobacco Control in Europe 2015-2025
- European action plan for tuberculosis prevention and control 2016-2020
- WHO reform and implications for the Regional Office for Europe.

The program for the 65th Regional Committee included progress reports on preventing and combating multidrug- and extensively drug-resistant tuberculosis, achieving the health-related Millennium Development Goals, the European Environment and Health Process, behavior change strategies, the role of health systems and implementing the International Health Regulations (2005). These reports provided updates on implementation of resolutions approved by the Regional Committee at previous sessions. Technical briefings and ministerial lunches offered additional opportunities to discuss technical agenda items.

Amongst the speakers of the Regional Committee was Her Royal Highness, Crown Princess Mary of Denmark, and Patroness of the WHO European Region, who gave the opening speech. WHO General-Director, Margaret Chan addressed the audience and called for the European states to pay particular attention to how corporate interests are influencing health policy-making. Regional-Director of WHO/Europe, Dr. Zsuzsanna Jakab, gave a review of improvements, developments and challenges in health care over the past year by emphasizing the WHO European Region’s goal of securing more equitable and sustainable health for Europe, supported by the Health 2020 policy framework.

Strengthening health systems towards people-centredness
Dr. Hans Kluge, Director of the Division of Health Systems and Public Health at WHO/Europe, set forth a vision to ensure that European health systems meet people’s needs and reflect their values. Priorities in strengthening health systems include moving from a fragmented disease response to a strong primary health care that integrates essential public health operations, and gaining universal health coverage throughout the region.

The International HPH Network was invited as a partner organization and delivered both an oral and a written statement on the roles of the hospitals and health services in the work of strengthening health.