

# Patient Psychology Research Review™

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Issue 12 - 2015

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### Abbreviations used in this issue

OR = odds ratio

QOL = quality of life



## Welcome to the latest issue of Patient Psychology Research Review.

Highlights include strong support for patient adherence programmes in patients with inflammatory or immunological disease, plus evidence of the benefits of text messaging for health improvement. Three NZ studies have made it into the mix this month: a report of benefit finding in patients with head and neck cancer, evidence of the importance of illness perceptions in patients with congenital heart disease, and a study confirming that seeing may indeed be believing (for side effects anyway).

We hope you find this issue interesting, and look forward to any feedback you may have.

Kind regards

**Keith Petrie**

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## Impact of patient programs on adherence and persistence in inflammatory and immunologic diseases

**Authors:** Burudpakdee C et al.

**Summary:** This meta-analysis assessed the effectiveness of patient adherence programmes in patients with inflammatory and immunologic diseases. 17 studies of patient programmes for inflammatory and immunologic diseases that reported measures of adherence or persistence were included. Overall, patient programmes increased adherence compared with standard of care (OR 2.48;  $p < 0.00001$ ). Combination patient programmes that used both informational and behavioural strategies were better at improving adherence (OR 3.68;  $p < 0.00001$ ) compared with those using only informational (OR 2.16;  $p = 0.001$ ) or behavioural approaches (OR 1.85;  $p = 0.05$ ). Patients in the intervention group were more likely to be persistent than those in the control group (OR 2.26;  $p = 0.02$ ); persistence was 42 days longer in the intervention group than the control group ( $p = 0.007$ ).

**Comment:** This meta-analysis looked at the effect of patient adherence programmes in 17 studies of rheumatology, multiple sclerosis and ulcerative colitis patients. The follow-up period ranged up to 2 years. Overall, patients who received programmes increased their adherence significantly compared to controls. The authors found that programmes that incorporated both educational and behavioural strategies were superior to those using a purely educational approach. Many of the combined patient programmes used cognitive behavioural therapy or motivational interviewing techniques as well as disease-specific educational material to tailor a programme around the patients' concerns about the medication. While many of the randomised trials were not as rigorous as could be hoped, the data overall showed strong support of patient adherence programmes as an effective method for improving adherence.

**Reference:** *Patient Prefer Adherence 2015;9:435-448*

[Abstract](#)

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## Mobile text messaging for health

**Authors:** Hall A et al.

**Summary:** This systematic review of reviews evaluated mobile text-messaging interventions designed for health improvement and behaviour change. Existing systematic research reviews and meta-analyses of text-messaging interventions were compiled and reviewed. The review found that most of the published text-messaging interventions were effective for diabetes self-management, weight loss, physical activity, smoking cessation, and medication adherence for antiretroviral therapy. However, there was only limited evidence to help identify recommended intervention characteristics.

**Comment:** Text messaging now has an amazing reach with mobile penetration high in both developing and developed countries. The authors of this paper report that 8 trillion text messages were sent worldwide in 2013 and 99% of all text messages were opened and 90% were read within 3 minutes of being sent. It is therefore not surprising that text messages have become a popular way to deliver health interventions. This review of the reviews – yes we have got to that stage – attempts to draw some conclusions from this high-reach and low-cost communication strategy. Generally, the review reports positive benefits in the areas of diabetes self-management, physical activity, weight loss, decreasing smoking and improving adherence to medication. The strongest effects seem to be in physical activity and smoking cessation interventions. As would be expected, message tailoring and personalisation seemed to improve the effectiveness of text messaging interventions. Interestingly, greater effects on adherence were noted when reminders were sent less frequently. This points to the negative effects of text messaging or that the messages can be an unwanted nagging reminder if sent too often. The new wave of interventions in this area are likely to use advanced messaging services like Facebook Messenger, SnapChat and Instagram, which can all incorporate video and pictures.

**Reference:** *Annu Rev Public Health 2015;36:393-415*

[Abstract](#)

### Independent commentary by Professor Keith Petrie

Keith Petrie is Professor of Health Psychology at Auckland University Medical School. Keith Petrie worked as a clinical psychologist in medical settings before taking up a faculty position in Auckland. His early work in pain clinics and medical wards sparked his interest in the field of health psychology and, in particular, the different ways patients cope with medical symptoms and treatment. His research group also does work on adherence to treatment, psychoimmunology, symptom reporting as well as the placebo and nocebo response.



## Predictors of self-reported adherence to antihypertensive medicines

**Authors:** Morrison V et al.

**Summary:** This study examined determinants of patient non-adherence to antihypertensive medicines. 2595 outpatients with hypertension from Austria, Belgium, England, Germany, Greece, Hungary, The Netherlands, Poland, and Wales completed a cross-sectional online survey. Non-adherence to medicines was assessed using the Morisky Medication Adherence Scale and the Medication Adherence Rating Scale. Non-adherence was associated with low age, low self-efficacy, and respondents' perceptions of their illness, and cost-related barriers. Multivariate analysis showed that low self-efficacy (OR 0.73) and a high number of perceived barriers to taking medicines (OR 1.70) were the main determinants of non-adherence.

**Comment:** This large European study looked at predictors of non-adherence to antihypertensive medication. Adherence varied strongly between country with the Dutch and German patients reporting the highest levels of adherence and patients from Hungary and Poland reporting the lowest rates. The key psychological variables that predicted adherence were low perceptions of illness consequences, a higher belief that the medicine can control the illness and higher self efficacy beliefs. As would be expected from other work, patients with a less frequent dosing schedule were also more adherent. Practical barriers, in terms of forgetfulness and interruption of daily routine, as well as feeling overwhelmed with the complexity of the regimen or other circumstances, also emerged as important factors associated with non-adherence to antihypertensives.

**Reference:** *Value Health 2015;18(2):206-16*

[Abstract](#)

## Predictors of adherence to glaucoma treatment in a multisite study

**Authors:** Cook P et al.

**Summary:** This study examined predictors of adherence to glaucoma treatment. 201 patients with glaucoma used electronic Medication Event Monitoring System (MEMS) bottles to monitor eye drop use for 2 months. They also completed adherence questionnaires. Adherence was 79% when assessed by MEMS compared with 94% when self-reported. Self-efficacy, motivation, dose frequency, and nonminority race/ethnicity predicted 35% of variance in MEMS. Cues to action, self-efficacy, and intention predicted 20% of variance in self-reported adherence.

**Comment:** Although glaucoma is a serious optic neuropathy that can lead to permanent blindness, non-adherence to eye drop medication is a serious problem. Studies have shown adherence reduces to around 70% after 2 months and 50% after 12 months. This study looked at predictors of non-adherence as established by an electronic monitoring device that tracks bottle openings. The researchers found psychological factors were stronger predictors of adherence than clinical and demographic factors. Again self-efficacy – “I feel I am not capable of taking my medication as I should” and not having cues around to remind you to take the medicine emerged as important predictors of non-adherence measured by the electronic monitoring. Clearly there is an important need to develop more effective interventions to improve adherence in this important area.

**Reference:** *Ann Behav Med 2015;49(1):29-39*

[Abstract](#)

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## Observations of benefit finding in head and neck cancer patients

**Authors:** Cavell S et al.

**Summary:** Many patients with head and neck cancer develop depression after their diagnosis and treatment. Finding benefit in a disease and its treatment can reduce the symptoms of depression and enhance QOL. 92 patients from the Head and Neck Cancer Clinic at Auckland Hospital were assessed for unmet needs and QOL at diagnosis, and were assessed for benefit finding, coping, fear of recurrence and depression at follow-up 12–18 months later. Patients reported at least moderate benefit finding in most areas. More benefit finding was predicted by the presence of more advanced disease, Maori/Pacific Island ethnicity, lower baseline QOL, and the use of active coping strategies.

**Comment:** Benefit finding is a relatively new area in the psychological study of illness. It refers to the fact that a significant number, often a majority of patients depending on the disease, report positive effects from having developed their illness. Often the type of positive effects differs by diagnosis. Cancer patients often report their illness allowed them to get closer to the people they love or to clarify their priorities in life. Cardiac patients often report they valued changing to a healthier lifestyle and having the chance to alter poor health habits. This study looked at what predicted finding benefit from head and neck cancer. The Auckland researchers found that benefit finding was more common in more advanced disease and in Maori and Pacific patients. A greater use of active coping strategies at follow-up was also associated with greater levels of reported benefit finding. Benefit finding has been often overlooked in the study of chronic illness and research in this area often reinforces how adaptable people are in the face of devastating illness.

**Reference:** *Eur Arch Otorhinolaryngol* 2015; published online Jan 30

[Abstract](#)

## The impact of illness perceptions and disease severity on quality of life in congenital heart disease

**Authors:** O'Donovan C et al.

**Summary:** This study investigated the impact of disease severity and illness perceptions on QOL in patients with congenital heart disease. 110 patients aged >16 years who were attending an Adult Congenital Heart Disease Clinic completed a questionnaire assessing anxiety, depression, QOL, and illness perceptions at baseline and again 1 year later. 23% of patients had depressive symptoms at baseline and 30% had elevated trait anxiety. After controlling for associations with disease-related variables, illness perceptions explained 28%, 40% and 27% of the variance in depression, anxiety, and overall QOL, respectively. Baseline illness perceptions predicted QOL, cardiac anxiety, and depression 1 year later.

**Comment:** The advances in treatment for congenital heart disease mean the vast majority of babies diagnosed with the condition are now surviving into adulthood. This New Zealand study looked at the psychological health of patients attending the Adult Congenital Heart Disease Clinic. Consistent with overseas research, the study found high levels of anxiety and depression in this group. The findings supported the importance of illness perceptions in predicting anxiety, depression and QOL in this group of patients. Through the use of open-ended questions the researchers also identified that patients were concerned about their life expectancy and how their health problems would affect their family life or plans to have a family. All of these seem important targets in future studies designed to improve QOL in this group.

**Reference:** *Cardiol Young* 2015; published online Jan 20

[Abstract](#)



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## Seeing is believing: impact of social modeling on placebo and nocebo responding

**Authors:** Faasse K et al.

**Summary:** This study investigated the impact of the social modelling of side effects after placebo medication ingestion on the nocebo and placebo effect. 82 university students participated in a study that was purportedly investigating the impact of fast-acting beta-blockers (actually placebos) on pre-exam anxiety. After taking the medication, the students were randomised to witness a female confederate report experiencing side effects or no side effects after taking the same medication. Seeing a female confederate report side effects reduced the placebo effect on systolic ( $p=0.009$ ) and diastolic blood pressure ( $p=0.033$ ), and increased both total reported symptoms ( $p=0.005$ ) and symptoms attributed to the medication ( $p=0.01$ ). The effect on symptoms was only seen in female participants. Social modelling did not affect heart rate or anxiety.

**Comment:** Taking medication often occurs in a social context and we can be influenced by what other people say about a medication or whether others report problems with a drug. This study from my group looked at the effect of seeing another person, who you believe has had the same medication as you, report or not report side effects from the drug. We found when our actor reported symptoms there was an increase in side effects reported by the study participants who observed this. This effect was particularly strong in female participants. Interestingly, watching another "participant" report side effects also reduced the placebo effect of the medication. One possible explanation is that side effects are seen as a de facto indicator of drug quality and therefore drugs that have more side effects are seen as less effective. The ease of drug information on the internet makes the importance of social modelling of side effects an important area that can affect the efficacy and side effect reporting of drugs.

**Reference:** *Health Psychol* 2014; published online Dec 29

[Abstract](#)

## Stress predicts the trajectory of wound healing in living kidney donors as measured by high-resolution ultrasound

**Authors:** Maple H et al.

**Summary:** This study investigated the effect of preoperative stress and personality on surgical wound healing in living kidney donors. 52 living kidney donors due to undergo a hand-assisted laparoscopic donor nephrectomy were asked to complete the Perceived Stress Scale, the Life Orientation Test-Revised and the Ten Item Personality Inventory prior to surgery. Surgical wounds were assessed by high-resolution ultrasound during the first 3 post-operative days and again approximately 2 weeks after discharge. Higher pre-operative life stress, lower optimism and lower conscientiousness were associated with delayed wound healing, whereas emotional stability was associated with faster healing.

**Comment:** This study extends quite a large literature base now showing stress slows the rate of wound healing. Most of the previous studies have been conducted on experimental wounds rather than looking at clinical populations. The study also found that lower conscientiousness (which makes an appearance in the next study) and lower optimism were also related to slower healing. This work has been extended in other recent studies to show that psychological techniques using relaxation and emotional disclosure interventions have improved healing. The robust and large effects of stress on wound healing often surprise people looking at this area for the first time. Perhaps in time relaxation or other interventions will be provided as part of the pre-surgical work up.

**Reference:** *Brain Behav Immun* 2015;43:19-26

[Abstract](#)

## Your friends know how long you will live: a 75-year study of peer-rated personality traits

**Authors:** Jackson J et al.

**Summary:** This study analysed data from a 75-year longitudinal study to investigate whether an individual's mortality risk can be predicted by peer-reports of their personality characteristics. Data for 600 participants in the Kelly/Connolly Longitudinal Study on Personality and Aging were analysed. Participants were first observed in 1935–1938 when they were in their mid-20s, and observation continued through 2013. Male participants who were seen by their friends as more conscientious and open lived longer, whereas friend-rated emotional stability and agreeableness were protective for women. Friends' ratings were better than self-reports of personality for predicting longevity.

**Comment:** Personality has been shown to have pretty reliable effects on mortality. Of the big five constructs, conscientiousness has been found to have the most consistent effects on mortality with those with lower levels of conscientiousness being at greater risk. This study examined a sample of 600 individuals from the 1930s obtaining both self and friend personality ratings. The data showed different effects for men and women, possibly because in the 1930s only a small number of women had an occupation other than housewife, so this may have narrowed the repertoire of behaviour that friends had on which to base a rating of personality. Overall, friend ratings were stronger predictors of mortality than self-ratings with low conscientiousness again being the strongest predictor of death. This may be due to a greater number of ratings so the aggregation was more reliable or it could be that friends see us more accurately than we see ourselves.

**Reference:** *Psychol Sci* 2015;26(3):335-40

[Abstract](#)

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