

Patient Psychology Research Review™

Making Education Easy

Issue 19 - 2016

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Abbreviations used in this issue

CBT = cognitive behavioural therapy

PD = Parkinson disease

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Patient Psychology Research Review



Welcome to the latest issue of Patient Psychology Research Review.

This month we report the value of reviewing and discussing adherence data with young patients, and an ethical means of harnessing the placebo effect in patients with chronic low back pain. A clever study shows how patient expectations can directly influence the antidepressant drug response, and German researchers report that if you believe that stress affects your health, it probably will. We finish the review with a study especially chosen for the festive season and the Christmas roast!

We hope you find these and the other selected studies interesting, and look forward to any feedback you may have.

Kind regards

Keith Petrie

keithpetrie@researchreview.co.nz

STAAR: a randomised controlled trial of electronic adherence monitoring with reminder alarms and feedback to improve clinical outcomes for children with asthma

Authors: Morton R et al.

Summary: This study investigated whether electronic monitoring devices (EMDs) with reminder alarms and clinical feedback improve clinical outcomes in children with asthma. 90 children aged 6–16 years were randomised to an intervention group or a control group. Those in the intervention group had a commercially available EMD attached to their regular inhaler that monitored the date and time of all actuations, and played a reminder alarm if not actuated by a certain time. At clinic visits, adherence data from the previous 3 months were reviewed with the patient and parent/carer. Control participants had the same EMD attached to their regular inhaler, but adherence data were not reviewed, and the alarms were disabled. All of the children had poorly controlled asthma at baseline, and were taking inhaled corticosteroids and long-acting beta-agonists. Adherence was 70% in the intervention group and 49% in the control group ($p \leq 0.001$). The change in Asthma Control Questionnaire score at 1 year did not differ significantly between groups, but children in the intervention group needed fewer courses of oral steroids ($p = 0.008$) and fewer hospital admissions ($p \leq 0.001$).

Comment: This study shows the value of reviewing and discussing adherence data with young patients. The study utilised the advanced smartinhalers and smartturbo devices developed in New Zealand. Those patients in the adherence monitoring group were shown their adherence data graphically and had a discussion with their clinician about the level of adherence and the barriers to high levels of medication taking. The devices also played reminder alarms. The effect of the intervention on outcomes in children with poorly controlled asthma was very impressive: the hospitalisation rate was 5 times higher in the control group than the intervention group. Although it is not possible to say which parts of the intervention have the most influence on the improvements in adherence, the approach seems clinically useful and cost effective in this poorly controlled patient group.

Reference: *Thorax* 2016; published online Nov 4

[Abstract](#)

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Open-label placebo treatment in chronic low back pain

Authors: Carvalho C et al.

Summary: This study investigated whether placebo effects could be harnessed ethically in patients with chronic low back pain. 97 adults reporting persistent low back pain for more than 3 months were randomised to have open-label placebo (OLP) added to treatment as usual (TAU) for 3 weeks. Compared to TAU, OLP elicited greater reductions in maximum pain, minimum pain, usual pain, and total pain on 0- to 10-point numerical rating scales ($p < 0.001$), with moderate to large effect sizes. OLP treatment also reduced disability compared to TAU ($p < 0.001$). When the TAU group was switched to OLP for an additional 3 weeks, there were significant reductions in both pain and disability.

Comment: Open placebos are getting a lot of attention. They may offer a way of getting around the ethical issues of using placebos in clinical practice. This is another study showing that even when patients know they are receiving a placebo they seem to be effective. This study used chronic low back pain patients and showed a reasonably large effect size, reducing pain and disability by around 30%. However, the trial only had a short 3-week follow-up period. The results are encouraging but more long-term studies are needed to see if the effects of open placebos hold up over time.

Reference: *Pain* 2016;157:2766-72

[Abstract](#)

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Disclaimer: This publication is not intended as a replacement for regular medical education but to assist in the process. The reviews are a summarised interpretation of the published study and reflect the opinion of the writer rather than those of the research group or scientific journal. It is suggested readers review the full trial data before forming a final conclusion on its merits.

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Patient expectancy as a mediator of placebo effects in antidepressant clinical trials

Authors: Rutherford B et al.

Summary: This study examined whether patient expectancy mediates the placebo effect in studies of antidepressants. 54 adults with major depressive disorder were enrolled in an 8-week antidepressant clinical trial in which they were randomly assigned to a placebo-controlled arm (and received either citalopram or placebo) or an open-label citalopram arm. Pre- and postrandomisation expectancy was measured before patients received citalopram or placebo for 8 weeks. Postrandomisation expectancy scores were significantly higher in the open-label group compared with the placebo-controlled group (mean 12.1 vs 11.0). Mixed-effects modelling showed that Hamilton Depression Rating Scale (HAM-D) scores for citalopram-treated participants declined at a faster rate in the open-label group than in the placebo-controlled group. Patient expectations postrandomisation partially mediated effects on HAM-D at week 8.

Comment: This clever study was able to compare the effects in depressed patient being prescribed open-label citalopram (Celexa[®]) or placebo-controlled citalopram. By comparing the patients who received citalopram in both of these groups you are able to see how expectations can directly influence the antidepressant drug response. Despite getting the same drug administered by the same clinicians, participants who knew they were definitely getting citalopram improved significantly more than those who received citalopram but were aware of the possibility that they could be getting a placebo. The study highlights the difficulty in separating the placebo effects from treatment effects in clinical trial situations and how expectations can influence drug response.

Reference: *Am J Psychiatry* 2016; published online Sep 9

[Abstract](#)

Negative stress beliefs predict somatic symptoms in students under academic stress

Authors: Fischer S et al.

Summary: This study used a quasi-experimental study design to examine the role of stress beliefs in somatic symptom reporting. 216 German university students were examined at the beginning of term (less stressful period) and at the end of term (stressful exam period). After controlling for general strain, physical and mental health status, neuroticism, optimism, and somatosensory amplification, the investigators found that negative beliefs about stress at baseline significantly predicted somatic symptoms at follow-up ($p = 0.012$).

Comment: Do you believe that stress affects your health? This study shows that this belief is associated with higher somatic complaints in times of high stress. This perhaps works in the same way as the nocebo effect and is a kind of self-fulfilling prophecy. Stress does get blamed for a lot these days. Maybe it is time to rebrand stress? The authors suggest that perhaps stress responses could be relabelled as positive arousal cues. Maybe this is an idea worth trying.

Reference: *Int J Behav Med* 2016;23(6):746-51

[Abstract](#)

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Successful aging in the context of the disablement process: working and volunteering as moderators on the association between chronic conditions and subsequent functional limitations

Authors: Kail B et al.

Summary: This study evaluated the impact of two forms of productive engagement (working and volunteering) on the aging process. Data from the 1998–2012 waves of the Health and Retirement Study were analysed for 13,268 people aged 51–64 years. 16% of participants were working part time and 46% were working full time. 21% of the sample volunteered for <100 hours per year and 13% volunteered for ≥100 hours. On average, each person in the sample experienced 1.10 subsequent functional limitations and 1.45 chronic conditions. Chronic conditions were associated with increased levels of subsequent functional limitations, whereas both working and volunteering decreased subsequent functional limitations. Workers and volunteers (<100 hours per year) experienced a reduction in the association of chronic conditions with subsequent functional limitations.

Comment: This interesting longitudinal study looked at whether work and volunteering reduced the relationship between chronic illness and later functional limitations. The researchers found those older participants who kept working or some level of volunteering helped moderate the effect of chronic illness on functioning. The authors believe that the critical ingredient in successful aging is meaningful engagement in activities. The study highlights that keeping older people engaged in meaningful activities can pay off in terms of reducing health care costs and delaying the physical limitations that generally occur with aging.

Reference: J Gerontol B Psychol Sci Soc Sci 2016; published online May 25
Abstract

Illness perceptions predict mortality in patients with gout

Authors: Serlachius A et al.

Summary: This NZ study examined whether illness perceptions independently predict mortality in early-onset gout. 242 patients with early-onset gout (<10 years) were followed up for 1–8 years for mortality outcomes. A Cox proportional hazards model adjusted for predictors of disease severity and mortality in gout (number of tophi, serum urate, flare frequency) showed that consequence beliefs (hazard ratio, 1.29), identity beliefs (1.15), concern beliefs (1.18), and emotional response to gout (1.19) were associated with all-cause mortality (all p<0.05). The association between consequence beliefs and mortality remained robust after further adjustment for ethnicity, disease duration, diuretic use, serum creatinine level, and pain score (hazard ratio, 1.18; p=0.029).

Comment: This paper from researchers at Auckland adds to a growing list of studies that found that illness perceptions are associated with increased risk of mortality. The study was carried out in gout patients and found negative beliefs about the consequences of the illness predicted mortality, even taking into account a large number of clinical and demographic variables associated with a poor prognosis. This negative view of the consequences of gout on the patient's life is likely to lead to the view that treatments will not make any difference to outcome, and a fatalistic view of the condition. It is likely this may have been engendered by seeing family members or others have a poor outcome once diagnosed with the condition. These results like those in renal disease, diabetes and heart disease point to the fact that interventions designed to improve negative illness perceptions could potentially have effects on mortality.

Reference: Arthritis Care Res 2016; published online Nov 3
Abstract

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The effects of expressive writing before or after punch biopsy on wound healing

Authors: Robinson H et al.

Summary: This study investigated the impact of expressive writing before or after punch biopsy on the speed of wound healing. 122 healthy participants aged 18–55 years were randomised to 1 of 4 groups and undertook expressive writing or neutral writing, either before or after receiving a 4mm punch biopsy wound. Wounds were photographed on day 10 (primary end-point) and day 14 after the biopsy to assess healing. A greater proportion of participants who performed expressive writing before the biopsy had fully reepithelialised wounds on day 10 compared to participants who performed neutral writing either before or after wounding. In participants who wrote expressively after wounding, those who finished writing by day 6 were significantly more likely to be healed at day 14 than those who finished writing later. There were significant differences in positive and negative affect during the healing period between the pre- and post-expressive writing groups.

Comment: This is the third study to show that expressive writing before a punch biopsy wound can speed wound healing but notably it is the first study to investigate whether writing before or after wounding improves healing. The writing after wounding did not improve healing and this may be due to the fact that expressive writing tends to make people distressed immediately after writing. The results suggest that expressive writing should be done before wounding not after for maximal effects on wound healing. This adds to a large number of studies showing how stress and stress-reducing interventions like expressive writing can have strong effects on the immune system and wound healing.

Reference: *Brain Behav Immun* 2016; published online Nov 24

[Abstract](#)

I can see clearly now: using active visualisation to improve adherence to ART and PrEP

Authors: Jones A & Petrie K

Summary: This article discussed the use of ‘active visualisation’ for improving understanding of treatment and subsequent treatment adherence in individuals living with human immunodeficiency virus (HIV) and those at-risk for HIV infection. The theoretical background for the use of active visualisation was presented, plus initial evidence of its utility.

Comment: In this paper we propose that the use of more dynamic visual images that give patients a clearer idea of a disease process or the way a medication works have great potential for improving adherence. Many patients do not have a clear idea of why they are prescribed a particular medication or how it works. We argue for the use of more active visualisation in patient education. This can include animations or physical demonstrations of an illness process or treatment mode-of-action. An illustration of this process is provided for HIV infection and antiretroviral medication but this approach has applications across a wide variety of illnesses. Active visualisation should be designed to create a fit in the patient’s mind between their illness model and the purpose of their treatment.

Reference: *AIDS Behav* 2016; published online Nov 21

[Abstract](#)



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Affective beliefs influence the experience of eating meat

Authors: Anderson E & Barrett L

Summary: This report examined the impact of affective beliefs on the experience of eating meat. In particular, the aim was to test whether beliefs about how animals were raised (whether they suffered) would influence the eating experience. Participants were given identical samples of beef jerky that were labelled either with a description of animals raised on factory farms (confined to indoor pens) or animals raised on humane farms where they grazed outdoors. Although the meat samples in both conditions were identical, participants experienced them differently: beef jerky paired with factory farm descriptions looked, smelled, and tasted less pleasant (salty and greasy). Actual behaviour was also influenced: the participants ate less of the beef jerky that was labelled with a factory farm description.

Comment: Finally, here is one for the festive season and the Christmas roast. This study showed research participants enjoyed their meat less when it was described as factory farm raised rather than humane farm raised. They also reported the meat tasted, smelt and looked less pleasant, even though it was the same meat. Be sure to tell your family gathered around the Christmas dinner table that all meat was humanly raised. All the best for the Christmas break.

Reference: *PLoS ONE* 11(8):e0160424

[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.

For full bio [CLICK HERE](#).



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