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6th Annual Doctoral Research Conference

23rd April 2018



Welcome to the 6th Annual Doctoral Research Conference at the School of Health Sciences

Doctoral research is one of the most taxing and yet rewarding activities anyone undertakes in their academic career. This will be the sixth year of the School of Health Sciences Doctoral Research Conference. It is designed to provide an opportunity for our MPhil and PhD students to learn and practise the art of dissemination. The conference also aims to facilitate the exchange of research ideas between students, staff members and external partners.

Many research studies by our MPhil and PhD students have the potential to make a significant impact on policy and professional practice. This will contribute to our significant achievement in the latest Research Excellence Framework (REF 2014) where 100% of the School's research impact was judged as world leading or internationally excellent.

It is clear from the range and depth of work presented that our doctoral students play an important role in building a research community within the School and help to strengthen our links with the health professions and sector industries. Our students are therefore key to the School's research reputation and impact.

Professor Debra Salmon
**Dean, School of Health Sciences,
City, University of London**

Conference programme

10.00 – 10.30	Refreshments and Registration	Northampton Suite C
10.30 – 10.45	Welcome	Northampton Suites A & B
	Opening address from Professor Debra Salmon, Dean of the School of Health Sciences	
10.45 – 12.00	Keynote Talk	Northampton Suites A & B
	Dr Ryc Aquino, University of Cambridge	
12.00 – 12.45	Oral Presentations	Northampton Suites A & B
	Centre for Applied Vision Research	
12.45 – 14.00	Lunch & Poster Presentations	Northampton Suite C
14.00 – 15.15	Oral Presentations	Northampton Suites A & B
	Centre for Language Communication Sciences Research & Centre for Maternal and Child Health Research	
13.15 – 15.45	Break and Poster Presentations	Northampton Suite C
15.45 – 16.45	Oral Presentations,	Northampton Suites A & B
	Professional Doctorate in Health Psychology & Centre for Health Services Research	
16.45 – 17.00	Closing	Northampton Suites A & B
	Closing remarks by Professor Sir Paul Curran, President of City, University of London	

Schedule for oral presentations

Keynote Speaker:

Dr Maria Raisa Jessica (Ryc) Aquino, University of Cambridge

Ryc is currently working as a Research Associate at The Primary Care Unit, University of Cambridge. Following her undergraduate studies at Western Sydney University (Australia), she pursued an MSc in Clinical and Health Psychology at the University of Manchester. For her PhD, she explored the interprofessional collaborative relationships between midwives and health visitors in UK maternity services. This project is part of an ongoing programme of work entitled 'Collaborating in Pregnancy and the Early years' (The COPE Project), based at City, University of London. Ryc's current research interests focus on the application of psychological principles to the development of strategies for improving the organisation and delivery of healthcare services. She is also interested in the implementation of research evidence in healthcare organisations, and the use of complex interventions for improving health outcomes.

Oral Presentations – Centre for Applied Vision Research

12.00 – 12.15	Laura A EDWARDS Healthy shopper? Blood pressure testing in a shopping centre Pop-Up in England
12.15 – 12.30	Paul LINTON How Do We See Distance?
12.30 – 12.45	Leanne MCDONALD Taking the strain? Impact of glaucoma on patient's informal caregivers

Oral Presentations – Centre for Language Communication Sciences Research & Centre for Maternal and Child Health Research

14.00 – 14.15	Julie HICKIN A review of the evidence for treatments of verb and sentence production deficits in aphasia: are sentence treatments really more effective?
14.15 – 14.30	Emma CHRISTOPHER Improving Working Memory in Children with Language Difficulties
14.30 – 14.45	Abigail MORAN The impact of Developmental Language Disorder on Inner Speech
14.45 – 15.00	Rachel BARNARD Researching across two cultures: Shifting positionality
15.00 – 15.15	Cassandra YUILL Exploring informed decision-making during pregnancy and birth: a meta-synthesis of women's experiences

Oral Presentations – Professional Doctorate in Health Psychology & Centre for Health Services Research

15.45 – 16.00	Lumka TUTANI A qualitative analysis of participants' experience following attendance at both Cognitive Behaviour Therapy and Mindfulness Based Stress Reduction group programmes in IAPT for long-term conditions and medically unexplained symptoms (LTC/MUS)
16.00 – 16.15	Kiran Kaur BAINS Interviewing adults with mild-moderate learning disabilities and carers using a theory based approach to understand their health behaviours
16.15 – 16.30	Brittannia ABDUL-AZIZ Exploring patients' and healthcare professionals' perceptions of blood transfusion in a haematology setting
16.30 – 16.45	Paulina KUCZYNSKA Evaluating participant experience in lifestyle change intervention addressing cardiovascular risk (MOVE-IT)

Oral presentation abstracts

Laura A EDWARDS

Healthy shopper? Blood pressure testing in a shopping centre Pop-Up in England (with Peter Campbell, Deanna J Taylor, Rakhee Shah, David F Edgar, David P Crabb)

Background/Aim: Improving detection of elevated blood pressure (BP) remains a public health need. We present results from a Pop-Up health check stationed in shopping centres in England. We hypothesise the rate of case detection is related to measurable 'unhealthiness' of the shopping centres.

Methods: Our "Feeling the Pressure" Pop-Up was designed for use in covered areas by Bluedog Productions (www.bluedogproductions.co.uk, Hants, UK) and Wordbird (www.wordybirdy.co.uk, London, UK). This was part of a study investigating public engagement with Pop-Up's primarily offering eye health checks. Our Pop-Up was sited in four and three shopping centres sampled from the top ten unhealthiest and top 15 healthiest shopping regions respectively, following a report ranking towns/cities based on their unhealthy and healthy retail outlets. On one day in each shopping centre, people were approached and consented to BP testing. Outcome measure was people flagged with BP $\geq 140/90$ mmHg (cases).

Results: We detected 45 (22.6%) and 20 (13.1%) cases from testing 199 and 152 adults in the unhealthy and healthy locations respectively (relative risk 1.72; 95% confidence interval: 1.06 to 2.78). A measure of unhealthy retail outlets (e.g. fast-food outlets) within each shopping centre was associated with detection rate ($R^2=0.61$; $p=0.04$).

Conclusion: An association exists between cases of suspect hypertension found in a health check Pop-Up and measured 'unhealthiness' of the shopping centre site. Results hint at strategies for public testing of BP, potentially in the context of reducing health inequalities.

Paul LINTON

How Do We See Distance?

Vergence (the rotation of the eyes as measured by the tension in the extraocular muscles) has long been regarded as a preeminent cue to distance (Descartes, 1637), especially in the context of peripersonal (or reachable) space (Mon-Williams & Tresilian, 1999; Viguier, Clément, & Trotter, 2001). However, studies confirming vergence as a distance cue have not controlled for either (a) initial diplopia in the stimulus, which is also considered a distance cue (Morrison & Whiteside, 1984), nor (b) changes in the retinal image during convergence. To better evaluate the extra-retinal contributions to distance perception we asked subjects to fixate on a luminous surface for 30 seconds in otherwise dark surroundings before pointing at the distance of a subsequently presented dot. Unbeknownst to the subjects we varied their vergence during the fixation period (between 20 and 50cm in Experiment 1 and between 23 and 46cm in Experiment 2). Our current results suggest that this manipulation of vergence had only a minor effect on perceived distance, even when (as in Experiment 2) focus cues were also present. This observation not only questions the contribution of vergence to distance estimation, but also, given vergence's pre-eminence as a distance cue, the importance of absolute distance for vision itself.

References

1. Descartes, R. (1966). *Discours de la methode* (1637). Übers. und hrsg. von Lüder Gäbe, Hamburg, Felix.
2. Morrison, J. D., & Whiteside, T. C. (1984). Binocular cues in the perception of distance of a point source of light. *Perception*, 13(5), 555-566.
3. Tresilian, J. R., Mon-Williams, M., & Kelly, B. M. (1999). Increasing confidence in vergence as a cue to distance. *Proceedings of the Royal Society of London B: Biological Sciences*, 266(1414), 39-44.
4. Viguier, A., Clement, G., & Trotter, Y. (2001). Distance perception within near visual space. *Perception*, 30(1), 115-124.

Leanne MCDONALD

Taking the strain? Impact of glaucoma on patient's informal caregivers

Purpose: An 'informal caregiver' (ICG) provides assistance for a person (typically a spouse/relative) with a chronic/disabling condition. ICGs save the UK an estimated £60bn per year in care costs. Little attention has been given to the experience of ICGs in eye disease, particularly those caring for patients with glaucoma and we aimed to investigate this.

Methods: Patients were recruited from one glaucoma clinic and sampled from two main groups. Early stage patients (EP) were people with Humphrey visual field (VF) mean deviation (MD) better than -6dB in both eyes who were on first line medical therapy (drops) only. Other patients were further stratified into moderate (MP) and advanced stage (AP) groups with the latter having MD worse than -12dB in both eyes. Patients were sent a questionnaire pack and asked to identify an ICG who recorded a Modified Caregiver Strain Index (MCSI), a validated 13 item instrument scored on a scale of 0-26. Research has indicated mean MCSI to be >10 in Multiple Sclerosis and Parkinson's disease (Peters et al, 2013). All participants self-reported EuroQol-5 D (EQ5D) general health measure. Patients were not recruited if they had corrected binocular visual acuity (VA) worse than 0.3logMAR or other ocular disease. We report percentage of patients identifying an ICG, mean (standard deviation; SD) MC SI scores across groups and how these might vary due to other data (age, VF, EQ5D).

Results: Our cross-sectional postal survey yielded responses from 107 patients (38% of those invited). Percentage of patients with an ICG varied by group with 26% (12/46), 36% (18/50) and 81% (9/11) for EP, MP and AP respectively ($p=0.002$). Mean (SD) best eye MD was -0 (1) dB, -3 (3) dB and -21 (6) dB for EP, MP and AP's. Mean (SD) MCSI varied by group with 0.3(0.7), 2.3(3.6) and 5.1(4.4) for EP, MP and AP respectively ($p=0.002$). Only 2 ICGs recorded a MCSI > 10. Patient EQ5D scores were associated with increased MCSI ($p<0.001$), but not age or number of co-morbidities.

Conclusions: ICG strain for patients with non-advanced glaucoma is negligible, certainly compared to other chronic disease. ICG strain increases moderately with worsening VF's but in our sample this could be explained partly by worse general health. Glaucoma patient's ICG's might have other concerns not revealed by the MCSI: this is subject to further research.

References

1. M. Peters, C. Jenkinson, H. Doll, D. Playford and R. Fitzpatrick, "Carer quality of life and experiences of health services: a cross-sectional survey across three neurological conditions," Health and Quality of Life Outcomes, vol. 11, p. 103, 2013.

Julie HICKIN

A review of the evidence for treatments of verb and sentence production deficits in aphasia: are sentence treatments really more effective?

Introduction: Aphasia research demonstrates increasing interest in verb production treatment. Currently no review synthesizes studies that treat verbs in isolation (verb treatments) and those that treat verbs in sentences (sentence treatments). This paper reports the results of a systematically conducted scoping review of both treatments.

Method: Cinahl Complete and Medline Complete databases were searched. Studies published in peer-reviewed journals (1980 - October 2017) were considered for inclusion.

Results: Sixty-eight studies were accepted into the review, comprising mostly lower level evidence: e.g. 39 case series (57%) and 16 (24%) single cases.

Both verb and sentence treatments were found to be highly effective in improving production of trained verbs and sentences respectively. Sentence treatment appeared to be more effective in improving production of untrained verbs and sentences, and in improving discourse. However, only 27% of verb treatment studies assessed production of untrained verbs in sentences compared to 73% of sentence treatment studies. Similarly, only 38% of verb treatment studies assessed discourse compared to 83% of sentence treatment studies. Impact on functional communication was very rarely

assessed after either form of treatment (in 10% and 26% of verb and sentence treatment studies respectively).

Conclusion: Appraisal of verb and sentence treatments is hampered by inconsistent outcome measurement. Thus, whilst sentence treatments appear to be more effective in improving sentences and discourse, this conclusion is premature. The quality of the research would be improved by agreement regarding outcome measures to facilitate comparison of studies and ensure positive effects of treatment are detected.

Emma CHRISTOPHER

Improving Working Memory in Children with Language Difficulties

Background: Training has produced reliable gains in working memory skills for typically developing children. Those in a trained group showed significantly larger gains than controls in two trained executive loaded working memory tasks (Listening Recall and Odd One Out Span) and two untrained working memory tasks (Word Recall and Counting Recall) with effects still evident at 6 month follow up (Henry, Messer & Nash, 2014). Significant gains were present within the trained group for reading comprehension, still evident at 12 month follow up. An intervention that strengthens ability to divide attention between processing and storage may, therefore, have a benefit for reading comprehension. Children with language impairments commonly demonstrate a deficit in working memory ability (Montgomery, Magimairaj & Finney, 2010). The current research assesses whether improvements in working memory ability found via interventions with typically developing children can be replicated for those with language difficulties.

Methodology: Up to 100 children, aged 6-11 years, with language difficulty as a primary need, will be randomly allocated to a working memory intervention or active control group. Working memory training involves 18, 10-minute training sessions, over a 6-week period focusing on Listening Span and Odd One Out Span tasks. Outcome

measures are assessed at pre-intervention, post-intervention and 6-month follow up in working memory, sentence.

Findings: Pre-intervention and post-intervention assessments for an initial group of 24 children, have shown that those in the trained group have made significantly larger gains compared to the active controls in trained areas of executive loaded working memory (Listening Recall and Odd One Out Span) and two untrained working memory tasks (Word Recall and Counting Recall). Significantly larger gains have been found for those in the trained group compared to controls in sentence comprehension and pattern span at the post-intervention time point.

References

1. Henry, L. A., Messer, D. J., & Nash, G. (2014). Testing for near and far transfer effects with a short, face-to-face adaptive working memory training intervention in typical children. *Infant and child development*, 23, 84-103.
2. Montgomery, J. W., Magimairaj, B. M., & Finney, M. C. (2010). Working memory and specific language impairment: an update on the relation and perspectives on assessment and treatment. *American Journal of Speech-Language Pathology*, 19, 78-94.

Abigail MORAN

The impact of Developmental Language Disorder on Inner Speech

Background: Inner speech plays a role in cognitive development, self-regulation and executive function, but is also used for 'phonological encoding' - internally generating names to help remember visually presented stimuli such as pictures. The presence of inner speech can be tested using the Phonological Similarity Effect (PSE), whereby children, after seeing a series of nameable pictures, must recall them without any verbal cues. Children over the age of five years with typically developing language show poorer recall of pictures with rhyming names compared to non-rhyming names (indicating the presence of the PSE, hence,

inner speech) even when the response involves pointing (Henry, Messer, Luger-Klein, & Crane, 2012).

Developmental Language Disorder (DLD) is associated with difficulties around phonological skills and working memory. However, there are few investigations of inner speech in the DLD population.

Method: This study aims to recruit 160 participants: 80 children with DLD (40 aged 6-7 years and 40 aged 9-10 years) and 80 children with typical language development with a similar age and non-verbal IQ. Participants will complete a simple newly designed computer-based picture recall task with two conditions (rhyming/non-rhyming). Participants will then be asked to repeat part of this task and select which, if any, memory strategy they used by selecting the appropriate illustration. This part of the study is designed to elicit self-reports on inner speech use. In addition, data will be collected concerning each child's reaction time; speech rate; silent reading ability; and automatic naming as these skills may be related to the development of inner speech.

Results: Data analyses will be presented, based on an anticipated sample size of twenty children. This will include i) the presence or absence of PSE in children with DLD; ii) whether their self-reported strategy is correlated with the observed strategy; and iii) developmental changes between younger and older age groups.

References

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Rachel BARNARD

Researching across two cultures: Shifting positionality

This methods paper discusses issues of positionality arising out of an ethnographic study in which I examine a profession I am a member of (speech and language therapy)

and another I am outside of (nursing). The research was conducted on three stroke wards in the UK, between 2015 and 2017, with the aim of understanding how speech and language therapists and nurses share information about patients. Researcher clinicians have reported on the challenges involved in conducting research within their own profession; balancing the advantages of familiarity with the need for analytical distance. My interest in the liminal space between two distinct professional cultures meant that my position was in constant flux between inside, outside, familiar and distant. Managing acceptability to each profession resulted in personal dissonance as well as moments of insight, both for the research and for my clinical self. Findings from reflexive practice at all stages of the project, from negotiating access to completion of the fieldwork, will be presented to illustrate how the research was both facilitated and obstructed by my professional and personal history. I will draw on Pierre Bourdieu's concept of habitus to argue that as the life world of nurses became more familiar to me, my own habitus underwent a process of change. I will discuss how incorporating this insight into the analysis enhances the rigor of the ethnography and increases its potential to influence clinical practice.

Cassandra YUILL

Exploring informed decision-making during pregnancy and birth: a meta-synthesis of women's experiences

Increasing patients' informed decision-making has long been on the public health agenda, in virtually every area of care. Despite this positive policy shift, promoting more patient autonomy and care experiences that are aligned with personal values can lead to complex trade-offs, as choices are based on more sophisticated, expanding services with less reliance on clinician's intuitive judgment (Woolf et al, 2005). The commitment to facilitating informed choice is a fundamental aspect of NHS care provision, but how and if it is actually achieved are less concrete. The issue remains that, while clinicians believe they are offering patients a choice, in reality, women

still have a limited role in decision-making and do not feel their care is presented as a choice (Stapleton, Kirkham and Thomas, 2002). The informed choice concept is, therefore, bilateral in nature, and yet, there are few systemic reviews on women's experiences of decision-making about maternity care, particularly intrapartum care.

In order to address this gap, I conducted a systematic review of studies on women's experiences of making choices about their care during pregnancy and birth. Because this review focused on published qualitative data, I employed the meta-synthesis approach to explore the relevant literature. A meta-synthesis brings together and deconstructs qualitative findings, examining them, discovering essential attributes and, in some way, synthesising phenomena into a transformed whole.

My presentation will centre on the methodology and results of my review, clarifying how informed choice is researched and conceptualised in the existing literature on pregnancy and birth decision-making. Finally, I will discuss how the findings can be used to re-think informed choice and establish a more women-centric definition that fits the maternal health care context in which it will be employed.

References

1. Stapleton, H., Kirkham, M., & Thomas, G. (2002). Qualitative study of evidence based leaflets in maternity care. *Bmj*, 324(7338), 639.
2. Woolf, S. H., Chan, E. C., Harris, R., et al. (2005). Promoting informed choice: Transforming health care to dispense knowledge for decision making. *Annals of Internal Medicine*, 143(4), 293-300.

Lumka TUTANI

A qualitative analysis of participants' experience following attendance at both Cognitive Behaviour Therapy and Mindfulness Based Stress Reduction group programmes in IAPT for long-term conditions and medically unexplained symptoms (LTC/MUS)

Background: The IAPT is committed to reducing inequalities and traditional divisions which has reinforced stigma blighting both access to psychological therapies and the benefits that comes along for people with physical health conditions (LTC) including those suffering from medically unexplained symptoms (MUS). The programme for the national initiative for improving access to psychological therapies (IAPT) for people with mild to moderate depression and anxiety has been expanded to include access to people with LTC (Clark et al, 2009). However questions on how to improve the efficacy of CBT for LTC /MUS have been raised. A gap in studies investigating the use and benefits of adapted generic CBT programmes for long-term conditions (LTC) has been identified (Hadert, 2013).

Aims/objectives: This study investigated the experience of people with LTC/MUS who attended an adapted traditional CBT group program using health psychology theories namely Social Cognitive and Self-regulatory theories followed by MBSR.

Method: In-depth semi-structured interviews were carried out with 9 conveniently selected participants. A qualitative approach was seen as more appropriate in producing relevant psychological knowledge from clinical practice in health psychology. Therefore an interpretive phenomenological approach (IPA) was used for analysing the data.

Findings/conclusions: Six themes with subthemes that capture the experience of the participants emerged from the analysis. Relevant clinical implications for Health Psychologists are shared including the use of health psychology theories in adapting and improving the quality of CBT interventions for people with LTC/MUS in IAPT.

References

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Kiran Kaur BAINS

Interviewing adults with mild-moderate learning disabilities and carers using a theory based approach to understand their health behaviours

Background: Adults with mild-moderate learning disabilities tend to have poorer diets, lower levels of physical activity and higher levels of sedentary behaviour than their counterparts in the general population. Yet there are very few studies on the views of this group or their carers about what may be important to address in interventions targeting this group. These have not tended to use theory based approaches to exploring their perspectives.

Method: Social cognitive theory-based interviews were carried out with 24 participants with mild-moderate learning disabilities and carers, to explore their views on healthy living and what may be important to address in future interventions in this area, with this group.

Results: Social cognitive theory based interviews can be carried out with adults with mild-moderate learning disabilities and their carers, using an iterative approach along with careful preparation and planning.

Conclusions: Use of simplified language, Makaton and picture resources can make certain complex constructs accessible to vulnerable adults to an extent but cognitive ability is an important mediator of successful interviewing to gather rich data. Implications for gathering qualitative data with this group and their carers into their perspectives on their health will be discussed, along with those for intervention development with this group.

Brittannia ABDUL-AZIZ

Exploring patients' and healthcare professionals' perceptions of blood transfusion in a haematology setting

Background: Blood transfusions are commonly requested for haematology patients with blood disorders and cancers. Treatment perceptions may impact how patients cope with their condition (Leventhal, Nerenz, & Steele, 1984). However, from a systematic review of blood transfusion perceptions, it is unclear how haematology patients perceive blood transfusion (Abdul-Aziz, Lorencatto, Stanworth, & Francis, 2018). It is also unclear whether haematology patients' perceptions converge with their healthcare professionals' (HCPs') perceptions. Such convergence is important to establish a shared view of appropriate treatments.

Aim: To investigate adult haematology patients' and HCPs' perceptions about blood transfusion.

Methods: Semi-structured interviews at two UK haematology units were conducted with 14 adult haematology patients receiving transfusions and 14 treating HCPs (consultants, registrars, specialist nurses). Demographic data were collected and reported descriptively. Patient- and HCP-tailored interview topic guides were developed and informed by the treatment perceptions literature. Transcripts were analysed using inductive thematic and deductive content analysis using a conceptual model of themes of blood transfusion perceptions (Abdul-Aziz et al., 2018). The model comprised of 'Health benefits', 'Safety/risk', 'Negative emotions', 'Alternatives' and 'Decision making' themes.

Results: Identified themes extended on those in the model with the theme of 'Necessity' added as patients and HCPs viewed transfusion as highly necessary and beneficial for patients' health. Opposing themes emerged (e.g. 'Absence of negative emotions', 'minimal worry about having transfusions'). Many patients reported that the frequency and length of transfusion caused life disruptions and other patients disliked aspects of the procedure. Patients and HCPs reported patient physical

and psychological reliance on transfusion, with HCPs indicating that patients may require improved education about transfusion scheduling.

Implications: A range of areas where patients could benefit from more support were identified. Further consultation with patients and HCPs would be required to consider key issues and potential recommendations for practice to develop targeted guidance.

References

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- Leventhal, H., Nerenz, D. R., & Steele, D. S. (1984). Illness representations and coping with health threats (Vol. IV, pp. 219-252). In: Baum, A. Taylor, S.E. and Singer, J.E. (Eds.), *Handbook of psychology and health*. Hillsdale, NJ: Erlbaum.

Paulina KUCZYNSKA

Evaluating participant experience in lifestyle change intervention addressing cardiovascular risk (MOVE-IT)

Aim: Evidence for the efficacy of lifestyle interventions targeting cardiovascular disease risk factors such as smoking, poor diet and physical inactivity is growing, however the effects are often short-lived. The Capability, Opportunity and Motivation Model of Behaviour Change (COM-B) provides an evidence-based framework of the most effective behaviour change techniques. Motivational Interviewing has been researched to be an effective method in reducing cardiovascular risk, and by interacting collaboratively with patients and employing a number of COM-B aligned behaviour change techniques, it promotes a sustainable behaviour change. The MOVE-IT study is a big randomised controlled trial (n=1719) conducted by King's College London, assessing the efficacy of psychological interventions for people at an increased risk of developing heart disease. The aim of this qualitative study is to provide an

understanding of participant experience through the process of engagement in the trial.

Methods: Focus groups were facilitated to elicit participants' views, which were then analysed thematically to unveil core themes. Seventy-four participants were invited to attend a focus group. A total of twenty-six participants took part in the study. They formed six focus groups: four groups of completers and two groups of non-completers.

Results: Key themes identified a) Perceived benefits of the study; b) Factors enhancing behaviour change; c) Perceived risk of CVD; d) Potential barriers to change and overcoming these barriers.

Conclusion: Through the enquiry in participant experience, this qualitative study not only highlights the benefits of the MOVE-IT intervention, but it also identifies areas of improvement to ensure maintenance of behaviour change over time.

References

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Poster presentation abstracts



Daniel ASFAW

Do scotomas in glaucoma affect eye movements? A between eye study in people with asymmetric visual field loss

Purpose: To investigate whether glaucoma produces measurable changes in eye movements.

Methods: Fifteen glaucoma patients with asymmetric vision loss (difference in Mean Deviation > 6 dB between-eyes), were asked to monocularly view 120 images of natural scenes, presented sequentially on a computer monitor. Each image was viewed twice — once each with the better and worse eye. Patients' eye movements were recorded using an Eyelink 1000 eye-tracker. Eye-movement parameters were computed and compared within participants (better eye versus worse eye). These parameters included a novel measure: saccadic reversal rate (SRR), as well more traditional metrics such as saccade amplitude, fixation counts, fixation duration, and bivariate contour ellipse areas (BCEA) of fixation locations. In addition, the associations of these parameters with clinical measures of vision were investigated.

Results: In the worse eye, saccade amplitude and BCEA were smaller ($P < 0.05$), while SRR was greater ($P < 0.05$). There was a significant correlation between the inter-eye difference in BCEA, and differences in MD values (Spearman's $\rho = 0.65$; $P = 0.01$), while differences in SRR were associated with differences in visual acuity (Spearman's $\rho = 0.64$; $P = 0.01$). Furthermore, between-eye differences in BCEA were a significant predictor of between-eye differences in MD: for every 1 dB difference in MD, BCEA reduced by 6.2% (CI95%: 1.6 – 10.3%).

Conclusions: Eye movements are altered by visual field loss, and these changes are related to changes in clinical measures. Eye movements recorded during passively viewing.

Aliyha GHUMMAN and Mandie SCAMELL

A Participatory Co-design of Best Maternity Practice Recommendations: Female Genital Mutilation and Experience of Maternity Health Services

UK Maternity care policy and clinical guidelines both support offering women with Female Genital Mutilation (FGM) - described as procedures that intentionally alter or cause injury to the female genital organs for non-medical reasons (World Health Organisation, 2017) - high risk clinical care pathways, with obstetric antenatal and intrapartum management. Existing evidence on the efficiency of various models of care for women with FGM is currently lacking due to least qualitative evidence available on understanding of how this group of potentially, psychologically vulnerable women feel about childbirth and what their preferences may be. Overall aim of this study will be to produce woman centered practice recommendations for Maternity Health Service (MHS) provision for women with FGM and co-design of maternity services training package. The study will be comprised of 2 phases involving migrant women age above 18 years with history of FGM accessing MHS in the UK to explore their experiences and examine the psychological impacts of current MHS provision for those women adopting participatory, emancipatory epistemological research approach in order to co-design training package and clinical practice recommendations. A sample of migrant women will be recruited through snow-ball sampling technique and data will be collected through semi-structured interviews and focus group discussions (FGDs). These interviews and FGDs will be digitally recorded and transcribed verbatim. Thematic analysis will be made using qualitative data analysis software NVivo Version-11.3.2. Written and oral information about study will be provided to all participants and their informed written consent will be obtained. Ethical approval will be gained from Research Ethics Committee, City University of London. The outcomes of proposed research will contribute to provide particular and

differentiated insight into the childbirth and maternity care experiences of migrant women as a group in the UK and of those women generally in the world who have undergone FGM.

Anish JINDAL

Diagnostic accuracy of a new thresholding glaucoma screening programme using temporally modulated flicker

Purpose: To determine the diagnostic accuracy of the new Accelerator-4 Flicker Test Prototype (A4FTp) for the detection of chronic open angle glaucoma (COAG) and to compare its performance with currently available screening technologies.

Methods: This prospective diagnostic accuracy study included one eye of 40 participants with COAG and 38 normal controls. Participants were evaluated using the A4FTp, which determines flicker thresholds at specific regions of the visual fields with high susceptibility to glaucomatous loss, Frequency Doubling Technology (FDT) Perimeter C20-5 programme and the iVue SD-OCT in a random order with test results masked to the reference ophthalmic examination. The diagnostic accuracy of the tests was evaluated by receiver operator characteristics (ROC) analysis and areas under the ROC curves (AUROC) were compared. User acceptability of the tests was compared using a 7-point Likert scale.

Results: The mean AUROC for each test was; A4FTp (0.824, 95% CI 0.726-0.921), OCT any RNFL parameter $p < 1\%$ level (0.898 (0.830-0.966)) and FDT one or more locations missed at $p < 5\%$ level (0.911 (0.824 - 0.963)). AUROC comparison revealed no statistical difference between A4FTp and OCT ($p = 0.181$) or FDT ($p = 0.118$). The A4FTp time taken averaged just over 2 minutes per eye for all participants, taking approximately one third of the time to complete the HFA SITA 24-2 algorithm and twice the time with respect to the supra-threshold FDT C20-5.

Conclusion: Overall test accuracy for all tests was similar for the detection of COAG. The time taken to complete the A4FTp was rapid and participants' acceptance of the test was positive. Further development is

needed to improve performance and usability, initial results are promising. With further development the A4FTp could potentially have a role in glaucoma detection.

Lee JONES

High-stakes ocular surgery through the eyes of the surgeon: Experiences of operating on 'only-eye' patients

Operating on patients with only one seeing-eye is high-stakes surgery with potential for catastrophic loss of vision. This study investigates the behaviours, opinions, and experiences of surgeons caring for 'only-eye' patients undergoing ocular surgery. The aim was to explore how surgeons attempt to optimise safety in these procedures.

Using purposive sampling, ten surgeons (Female = 3) with experience of conducting ophthalmic surgery (6 to 28 years) were invited to take part in a 40-minute semi-structured interview. Interviews were conducted by a health psychologist and qualitative analysis of the transcripts was carried out using thematic analysis.

The interviews yielded several recurring themes pertinent to the study aims. For optimising patient safety, tailored pre- and postoperative care, including rigour during the consent process, were frequently cited as important aspects to consider in only-eye surgery. Successful outcomes in only-eye surgery were attributed to such factors as: logistics, including staffing and scheduling; mentorship, including encouragement and sufficient training; and the adoption of specific coping mechanisms, including motor imagery (for example, task visualisation), optimism, and faith. Concerns over current practice in only-eye surgery related to a perceived lack of formal support in the event of devastating surgical outcomes, and an absence of available time to utilise such services. There was a consensus that the second victim phenomenon is not well-recognised in the field of ophthalmic surgery.

This multinational study highlights advice and concerns of ophthalmic surgeons performing only-eye surgery. The results help to explain how surgeons gain resilience and are able to

manage the complexities of only-eye surgery. The findings of this study offer important insight into only-eye surgery which has not previously been explored. The results have potential to serve as an essential resource for learning and professional development in ophthalmic surgery, and describe the challenges to overcome to help improve service delivery.

Stephen KELLY

Does the eye testing order for visual fields matter?

Purpose: Measurement variability in visual field (VF) examinations is likely related to fatigue. Therefore, long-term measurement variability could be worse for the eye examined second compared to the eye examined first; we test this hypothesis using longitudinal VF data collected from clinics.

Methods: Series of 6 VF exams for 7,760 patients were extracted from a database compiled from 4 glaucoma clinics in England. The first VF in each series was discarded to minimize any perimetric learning effect. Individuals were only included ($n = 6,894$; 89%) if their eyes were always tested in the same order. Of eyes that were always tested in the same order, 99.95% of the time the right eye was tested first. Rates of mean deviation (MD) loss were calculated per eye (dB/y) using least squares regression and the residuals were calculated (predicted - observed) as a surrogate of long-term variability. Absolute errors were then compared between 1st and 2nd eye tested. Measurement variability is closely linked to severity of VF loss. Therefore, to correct for any between eye differences we only considered patients with similar VF loss in each eye at baseline (MD difference between eyes < 3 dB; $n = 4,528$; 58%).

Results: Mean (standard deviation) absolute error for all included eyes was 0.74 (0.01) dB. Absolute errors for eyes tested second were greater than those for eyes tested first, by an average of 0.04 dB ($P < 0.001$, 95% CI: 0.03 - 0.05 dB).

Conclusions: During follow-up the VF of the eye examined second will typically accumulate more measurement error than the one tested first; this might be due to fatigue from perimetric testing. The size of the effect is very small given overall long-term variability in perimetric testing in clinics. Still, consideration should be given to eye order testing in situations where measurement precision is important, as for example in clinical trials or when clinical management of a patient indicates one eye should be monitored more 'closely' than a fellow eye..

Vasiliki KLADOUCHOU

Predictors of the Psychosocial Wellbeing in Young Adults with Aphasia vs Developmental Language Disorder (DLD) – Current evidence and my project

Background: There is accumulating evidence confirming the emotional and social impact of aphasia in people's lives. Similarly, there is an increasing number of longitudinal studies revealing that psychosocial difficulties evident in children with DLD are persistent in adolescence. The literature in Aphasia reflects mostly older adults, the typical demographic affected by stroke, whilst the literature on DLD covers mostly children. What is the evidence about the psychosocial wellbeing of young adults with Aphasia and DLD, who have distinct needs and wants? The present poster answers the question.

Methods: Results of the current evidence are based on a systematic review using both EBSCO and Ovid platforms. Only studies using validated outcome measures (quantitative) or established ways for analysing data (qualitative) were included.

Results: Thirteen research reports met the eligibility criteria. Aphasia was a strong predictor of the language subdomain of quality of life. For young adults with DLD, self-rated health, employment, relationship status, prosocial skills, problems in last six months, support, self-efficacy, and education to employment transition were predictors of wellbeing. No comparison study was found. From a methodological perspective, only one

report looked at wellbeing and psychosocial aspects affecting it; all other studies looked at psychosocial aspects of life and interrelations between them. Moreover, most of the studies used association analyses and did not explore predictors.

My project: This project will explore psychosocial predictors of the wellbeing in young adults with Aphasia and those with DLD using regression analyses. It will be also the first study making a comparison between these two language-impaired groups. Producing a unique dataset, this project will use several measures: wellbeing scales as main outcomes and language, cognitive, social, emotional, psychological, health measures as predictor variables.

Jenny MCLEISH

Evaluation of a third sector volunteer peer support project for perinatal mental health

Background: Mental health problems are common during the perinatal period (pregnancy and the year after birth), affecting around 20% of women. Women's distress is often compounded by feelings of stigma and shame at 'failure' to live up to societal ideals of motherhood, leading to concealment and isolation. These feelings may be ameliorated by peer support. In 2016, parent support charity NCT began 'Parents in Mind', a 3 site pilot of volunteer peer support. The volunteers, who had all experienced and recovered from perinatal mental illness, were trained to lead peer support groups and to give 1:1 support to pregnant women and new mothers currently experiencing mild to moderate mental health problems.

Aims: A theory-based evaluation of Parents in Mind, informed by critical realism. This includes an impact evaluation of the effects on participants' emotional wellbeing and use of mental health services, and a process evaluation, identifying the barriers to and facilitators of setting up and running a third sector mental health project.

Methods: Following development of a detailed Theory of Change in partnership with project staff, the study is using mixed methods:

(1) quantitative data from questionnaires completed by service users and volunteers, and other routinely collected service data; (2) qualitative data from interviews with 8-12 service users at each site, 8-12 volunteers at each site, four project staff, and external stakeholders. Quantitative data will be analysed using descriptive and inferential statistics; qualitative data using thematic analysis. The three sites will be compared to understand how local factors may affect the establishment of a new third sector peer support project.

Conclusion: This evaluation will inform decisions on adaptation and roll out of the piloted model and contribute to the currently limited evidence base about how third sector organisations can offer perinatal peer support that is both effective and safe.

Mamta SAGAR

Using behaviour change techniques to reduce leisure screen time behaviour amongst mothers in London: Protocol for intervention co-design and feasibility study

Background: Growing digitalisation is increasing the use of screens in various forms and is a determinant for various health problems. Behavioural interventions, incorporating appropriate behaviour change techniques (BCTs) are required to reduce the use of screens. The current evidence regarding the effectiveness of BCTs amongst adults is limited to only reducing sitting and not screen time. Evidence indicates that to reduce screen time among children, parental role modelling, especially by mothers, is vital. Hence, co-design of an intervention is planned, in collaboration with mothers as the end users and experts in their situation. Prior to investing in bigger trials, this study aims to develop and assess the feasibility of an intervention to reduce screen time for mothers.

Methods: This is a before-after, uncontrolled, intervention development study involving a co-design process, quantitative data collection and semi-structured interviews. Using convenience and snowball sampling, 25-30 mothers will be recruited from a primary

school. Objective quantitative data will be generated from an app for step count and tracking screen time. The co-design process will involve workshops in which participants generate ideas and provide their views on the operationalisation of behaviour change techniques identified from previous research. Feasibility will be assessed using semi-structured interviews, based on the theoretical domains framework, to capture the barriers and enabling factors in engaging with the intervention to reduce screen usage for leisure.

Discussion: The co-design process is likely to enhance feasibility, acceptability, intervention efficiency and understanding of barriers and enablers in achieving behaviour change amongst mothers. The study findings will indicate whether a school is an appropriate platform and context for such interventions. The study has the potential for generalizability to other adults in the household with caring responsibility.

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Eileen SENTHAN

Health-related and vision-related quality of life in adults and children with myopia: a systematic review of quantitative and qualitative studies

Background: There has been a rapid increase in global prevalence of myopia. It is estimated that by the year 2050 of the world population 49.8% will have myopia and 9.8% will have high myopia¹. The natural progression of myopia is multifactorial, and myopia is often characterised by axial elongation of the eye. Interventions to correct myopia include spectacles, contact lenses, orthokeratology and refractive surgery.

There exists a paucity of information about the quality of life in myopia and the relative effects of the interventions to correct myopia. Such information will aid a clinician in the management of a myopic individual.

Objective: To assess the impact of myopia on vision-related and health-related quality of life in adults and children and to determine the relative effects of interventions to correct or slow progression of myopia on quality of life.

Method: Electronic searches will include EMBASE, PubMed, CINAHL, PsycINFO and the Cochrane Library. There will be no restrictions on study design. Studies will be included if they investigate or report health-related or vision-related quality of life in adults or children with myopia or the effect of myopia correction on quality of life. The primary outcome will be any quantitative measure of health-related quality of life, vision-related quality of life; and any qualitative description of the impact of myopia on quality of life. Two review authors will independently screen the title and abstracts of all studies identified by electronic searches and retrieve full articles of studies appearing to meet the inclusion criteria. Relevant data will be extracted independently; and using appropriate clinical appraisal tools (CASP, JBI, MMAT) risk of bias of will be assessed. Statistical data analysis will then be conducted.

Current progress: Title and abstract screening is ongoing and near completion.

Reference

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