Clinical Decision Making Workshop * COGITA: Gut Feelings in General Practice

Joint Online Meeting 2021 Wednesday April 21st, 2021, 9.00 – 19.00

Photo: Michael Siegel

This is the main building of the University of Marburg, Germany. Almost 500 years old, ours is the oldest protestant university in the country. Under normal circumstances, we would have invited you not only to the conference but would have taken you on a tour into the old town of Marburg. This year, however, we will have to meet online. We hope there will be occasions for visiting the beautiful town of Marburg in the future.

Future Healthcare: Machines taking over?

There is no area of health care where digital innovation is not on the agenda. Patient held apps are expected to improve psychotherapy, monitor symptoms or encourage behaviour change. Virtual realities make skills labs for health professionals' training look old-fashioned. Citizens and clinicians are curious to know what symptom checkers make of complaints and findings. A health watch is supposed to know more about an individual's health than she herself. Electronic records and administrative data provide an unheard-of bird's eye view on what is happening in all corners of the health care system.

Public debate is often stuck between glorification and demonization. As a result, subtleties get lost, such as how these developments change the way we perceive the world, set priorities and make decisions. Clinicians listen to what their patients say, but only part of the (hi)story is being recorded. Information that fits in a category, such as an ICD code, is privileged and travels across the system, the rest is easily forgotten. What happens to clinician-patient relationships when digital devices are being used? How can digital support enrich clinical reasoning and improve continuity of care?

Questions addressed by conference are:

- Empirical: where does the digitalization of health care lead to?
- Analytical: what kind of processes are at work here? What are the underlying values and interests?
- Normative: Which devices deserve our support, and which should be prevented from being disseminated? Do the changes we are witnessing improve the quality of care and, ultimately, the health of our patients?

Keynote Speakers

Prof. Heleen Riper (University of Amsterdam/NL)

Prof. Tobias Raupach (University of Bonn/D)

Prof. Hanneke Scholten and Joanneke Weerdmeester (Radboud University, Nijmegen/NL)

Support

We gratefully acknowledge support by the European Association for Decision Making (EADM)

Scientific Committee

Norbert Donner-Banzhoff (Marburg – D), Huub Pijnenburg, Bea Tiemens, Cilia Witteman (all Nijmegen – NL); York Hagmayer (Göttingen – D), Daniel Hausmann (Zürich – CH), Marie Barais (Brest – F)

Local organizer: Norbert Donner-Banzhoff, Muazzez Ilhan; Department of General Practice/ Family Medicine, University of Marburg, Germany

Date

Wednesday April 21st, 2021, 9.00 – 17.30 h * informal get together after 18.00 h

Videoconference link:

Topic: CDM-Workshop 2021
Time: 21.Apr.2021 09:00 AM Amsterdam, Berlin, Rom, Stockholm, Wien

Join Zoom-Meeting
https://us02web.zoom.us/j/84263630933?pwd=MXRUOVdnMHlGYlNxc2RLbkJDNlhmQT09

Meeting-ID: 842 6363 0933
Pascode: 197998

CME Credits

By Landesärztekammer Hessen

Contact and coordination:

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Homepage: www.cdm-workshop.eu

Scientific Programme

Chairperson/Moderator: Huub Pijnenburg (Radboud University, Nijmegen/NL)

9.00	Welcome
9.15	**Keynote 1** Heleen Riper: Supporting clinical decision making in mental health care with digital tools
10.00	Brief break
10.05	**Oral presentations (2)** Maria Hanf: Primary care professionals' attitudes towards digital health interventions for common mental disorders: a mixed-methods systematic review Hendrik Napierala: Digital health applications: Undermining or supporting primary care? A descriptive analysis of the DiGA directory
10.45	Coffee break
11.00	**Oral presentations (3)** Claire Friedemann: The GLANCE study: Exploring the role, use, and utility of General Practitioners' gut feelings for cancer and serious disease in primary care. Erik Stolper: Gut feelings of patients in general practice: description and significance Margie van de Wiel: Gut feelings of patients in general practice: validating a questionnaire
12.00	**Keynote 2** Tobias Raupach: Training and assessment of clinical reasoning in medical education
12.45	Lunch break – informal talk
13.15	**Oral presentations (3)** Marsha Philipsen, Ronald de Meyer: OBVL-K as a clinical/digital tool for monitoring parenting stress Annebel ten Broeke: BAIT - A new medical decision support technology based on discrete choice theory Rien Breteler: Future Healthcare: Electronic Devices taking over?
14.15	Coffee break
14.30	**Poster Session** Pitches in plenary, then self-selected break-out groups Agata Sobkow: Worry, risk perception, and controllability predict intentions towards COVID-19 preventive behaviors [Moderator: Bea Tiemens] Jakub Krawiec: Title: Strengthening the healthcare system: utilizing nudging & boosting during the COVID-19 pandemic [Moderator: Cilia Witteman]

	Szymon Mizak: Intertemporal and risky decision making and attitudes towards COVID-19 pandemic and vaccination [Moderator Daniel Hausmann]
15.00	Coffee break
15.15	**Keynote 3** Hanneke Scholten, Joanneke Weerdmeester: Bridging Science and Design: Creating Games to promote Mental Health and Behaviour Change in Youth
16.15	Short break
16.20	**Special Session: Games** **Pre-registration required** Three parallel sessions: − Hanneke Scholten, Joanneke Weerdmeester: Mapping the Benefits and Challenges of Validating and Implementing Digital Tools for Youth in Clinical Practice [Moderator: Huub Pijnenburg] − Daniel Hausmann: KETO - Assessing decision-making behavior under uncertainty with an attractive online game; DrTweak - Detecting preferred diagnostic strategies of clinical decision making with a scenario-based board game [Moderator: Cilia Witteman] − Norbert Donner-Banzhoff: Differential diagnosis: an educational board game [Moderator: York Hagmayer] 17:20 Plenary: General Discussion
17.45	**Short break**
18.00	Informal gathering with local drink and food (gather.town)

Keynote lectures: 25 min presentation, 20 min discussion

Oral presentations: 15 min presentation, 5 min discussion

Games: NOTE we urge participants to choose their session (1,2 or 3) and register by E-mail [cdm-cogita@uni-marburg.de] no later than Tuesday, April 19th 15.00 h.

Posters: invitation (pitch) for plenary (2 min each), then 4 parallel groups for discussion of each poster. Posters will be pdfs, possibly with additional linked material. Screens shared by presenters (alternatively: moderators)

Informal gathering: we ask participants to prepare a very brief presentation of a specialty from their region

Additional information (conference zoom link, download instructions for conference related software, etc. is to be sent out Monday, April 19.

Abstracts

Keynotes

Heleen Riper: Supporting clinical decision making in mental health care with digital tools

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The evidence-base of digital interventions for mental disorders, especially those based on CBT, is steadily and positively growing. Ample evidence is now available for the prevention and treatment of general populations as well as clinical populations. This also holds for blended formats in which face-to-face and digital components are integrated in one treatment protocol. This blending of strategies has been increased both formally and informally especially regarding the inclusion of videoconferencing in mental health treatments due to COVID-19, for the latter the evidence is still in its infancy. It has been even argued that COVID-19 functions as a 'black swan' for mental health care and a turning point for e-health' (Wind et al. 2020). Meanwhile innovative, low threshold, digital applications are being developed and tested to support clinical decision making (CDSS) in terms of diagnostics and personalization in terms of treatment choice and monitoring of progress and deterioration all with the aim to predict and improve treatment outcome, patient satisfaction and costs in mental health care. These tools may focus on the micro level (therapists, patients or on both), the macro level (organization and management or research purposes) or on the meso level (policy levels). In this presentation Riper will focus on a number of these tools with a specific focus on digital phenotyping which can be defined as the "moment-by-moment quantification of the individual-level human phenotype in situ using data from personal digital devices," in particular smartphones (Onella 2015). For this active self-reported data collection (meaning for example that the patient is prompted to answer questions such as mood and sleep) and passive automated data collecting (e.g. physical and geographical data and speech data which opens the way to apply more 'objective' markers as well) are being used. Realising that digital phenotyping is still in its' infancy Riper will present the conceptual framework surrounding this domain and what it can contribute to clinical decision making. She will illustrate this exploration by virtue of the results of a number of innovative research projects she and her colleagues have been involved over the last years.

Tobias Raupach: Training and assessment of clinical reasoning in medical education

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Traditionally, clinical reasoning is taught in medical education by presenting cases either in the classroom or in a small seminar using a problem-solving approach. One limitation of this approach is that learning inputs are not standardized. For example, in bedside teaching there is usually a focus on practical skills while diagnosis and treatment receive less attention. In small group teaching, these aspects can be conveyed and through careful selection of cases some standardization can be achieved. It is unclear, however, which competencies individual students acquire. In addition, learning goals, teaching formats, and assessments are often not consistent with each other. Digital teaching formats allow us to overcome some of these problems. Key feature questions can be used to assess competencies in clinical decision making.

They also support the retention of learned content through test-enhanced learning with individualized feedback being a crucial component. Digital learning platforms also allow us to automate testing and feedback, which results in high efficiency. A second new approach are serious games, which are based on self-determination theory. For example, a game, in which a virtual emergency room was simulated, resulted in improved learning, whose effects remained stable for 1.5 years. In the keynote, research results from various projects will be presented. Advantages and disadvantages of digital training formats for clinical reasoning will be discussed.

Hanneke Scholten, Joanneke Weerdmeester: Bridging Science and Design: Creating Games to promote Mental Health and Behaviour Change in Youth

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Physical and mental health problems are common and increasing, leading to detrimental long-term outcomes that affect many people across the globe. Effective prevention and treatment programs that have more than a small effect size and that do not stigmatize or bore those that seek help, are in demand. In this keynote, we will discuss how games can be used to benefit (mental) health while not losing sight of the potential negative consequences of technology on behaviour. Subsequently, we will focus on how to design evidence-based games that promote emotional resilience and behaviour change by training skills while youth are immersed in games they love to play. Using a few examples, we will share how we prioritize design and art, integrate science and principles of behavioural change, and how we systematically test these game interventions. Furthermore, we focus on the potential impact of these games for youth and clinical professionals as either stand-alone or supporting tools for (mental) health prevention and treatment, while also addressing the challenges related to clinical decision-making, implementation and validation.

Mapping the Benefits and Challenges of Validating and Implementing Digital Tools for Youth in Clinical Practice

Hanneke Scholten & Joanneke Weerdmeester

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By virtue of recent technological innovation, we can create more engaging and accessible digital tools to improve our physical and mental wellbeing. More and more applications and digital interventions are added to the existing list of tools every day. But how do we ensure that these digital tools actually enrich the way that psychological treatment is designed, selected, delivered, and experienced? How can we best assess their usability and effectiveness as stand-alone or supporting tools for (mental) health improvement? How can we tailor our intervention and game design to youth's individual treatment needs and the needs of clinical professionals? What are the benefits to using digital tools and what are potential barriers for implementing them in practice? What information is needed to facilitate clinical decision making? These are questions that we will ask ourselves in this interactive workshop. First, we will share some recent examples of game-based interventions and applications and the framework that was used to develop them. Then, in smaller groups, we will actively brainstorm about benefits and challenges for clinical decision making, validation, and implementation related to digital intervention tools.

DrTweak - Detecting preferred diagnostic strategies of clinical decision making with a scenario-based board game

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An active information search procedure (AIS) was created to detect individual strategies within a diagnostic process under uncertainty, and in the transition from diagnosis to treatment. DrTweak is an attractive and complex board game to test the use of three plausible stopping models for medical diagnoses: Pattern Matching (PM), Confidence Threshold (CT), or Request Confirmation (RC). DrTweak includes six fictitious male patients in the waiting room of a toxicological emergency center suffering from one (out of four) severe toxication, or being healthy. More than 150 participants, physicians (PH), psychiatrists (PS), psychotherapists (PT), medical students (MS), and non-medical students (NMS), had been free to choose his or her preferred diagnosing and treating actions for each patient (free in extent and order): To ask for or test as many symptoms (out of 10), to make a final diagnosis, to choose a treatment, whether to request confirmation about the initiated treatment or not, and finally to discharge the patient. Due to individual behavioral patterns, model fits have been calculated for each of the three models. Whereas detected strategies differ between professions and expertise, as well as compared to non-professionals, we also found a high degree of a certain flexibility and inconsistency in the strategy use within participants, and a high amount of heuristic strategies like over- and under-search, as well as other composed models (including parts of PM, CT, and/or RC)."

KETO - Assessing decision-making behavior under uncertainty with an attractive online game

Daniel Hausmann, Lara Grob and Arne Hansen

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A short decision-making online test (KETO - Kurzer Entscheidungs-Test Online) was created to accurately detect the Desired Level of Confidence (DLC) on an individual level. KETO is an attractive and complex virtual game in the sense of an objective personality test – not easy to decode for participants. KETO includes 22 comparable decision-making trials, in which one of four options has to be chosen with the help of zero to maximal five probabilistic cues on an information board. For every individual, the DLC is experimentally detected according to a constraining procedure and is calculated ex post on the basis of the complete behavioral pattern of searched information. Several steps of validation were processed with 1,008 participants including divergent and convergent validity, between-group comparison, criterion validity, as well as retest reliability, and stability (Hausmann & Stoll, 2019). The DLC is independent of motivation of participation, maximization, and the Big Five. Whereas many people make a decision at the time they have reached subjectively enough certainty, showing a specific DLC, further objective behavioral measures can be traced with KETO, like consistency, risk seeking, risk avoiding, and non-rational behavior, or information seeking strategies, performance, and time duration.

DrTweak and KETO will be presented in a joint session.

Differential diagnosis: an educational board game

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Background

Differential diagnosis denotes the process starting from the presenting complaint leading to a diagnostic formulation of the patient's problem. It requires an extensive knowledge base, which depends on the setting of care. Moreover, an understanding and familiarity with certain behavioural and cognitive rules improves the outcome. - Learning about the diagnostic process preferably takes place in practice. However, there are often limitations regarding time, logistics and the availability of suitable patients. When teachers construct cases, these often suffer from being too typical and implying a definite solution, contrary to the problems presented by real patients.

Objectives

We have developed a board game simulating the diagnostic process in generalist medical settings, such as general practice and hospital emergency department.

Methods

Case constellations emerging in the game are to a large degree driven by random processes. The sequence of inductive foraging, triggered routines and hypothesis provides an underlying the structure to the evolving case. The game helps understand these concepts as well as the prioritization of diagnostic information, differences between settings, action thresholds, costs, when to stop gathering data etc. As pieces of information come in, participants discuss their value regarding relevant hypotheses. As in real life, cases do not always have a clear solution. The game shows the pervasive uncertainty in clinical work. At the same time, it is highly entertaining and funny. We have developed a real board game and a digital version.

Format

Presentation of the digital version. Technical conditions permitting, conference participants will play the game.

Oral presentations

Primary care professionals' attitudes towards digital health interventions for common mental disorders: a mixed-methods systematic review

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Background

Digital health interventions to treat mental disorders have shown to be effective. In primary care, depression and anxiety are the two most frequently diagnosed and treated mental health disorders. When not referred to specialists, primary care professionals treat these patients themselves, but experience having insufficient time for adequate treatment.

Research question

What are the attitudes of primary care professionals towards the use of digital health interventions in the treatment of patients with depression and anxiety?

Methods / Study design

This mixed-methods systematic review followed the PRISMA checklist. We searched for qualitative, quantitative and mixed-methods studies published in English, German, Spanish, Russian, French and Dutch from January 2010. The included studies concerned digital mental health interventions conducted via computer and/or mobile devices in the primary care setting. The search was conducted in July from 2020 in five electronic bibliographic databases. We used the 'Integrated methodology' framework to combine both quantitative and qualitative data as a single study.

Results

6.893 studies were identified. After removing duplicates and title/abstract screening, 76 studies were selected for the full-text screening, of which 12 articles were ultimately included in the analysis. We will present the results of this review regarding study characteristics, characteristics of study participants, characteristics of the interventions and review-specific results (i.e. reported attitudes toward the intervention, barriers and facilitators).

Conclusion

The review results will demonstrate the attitudes of primary care professionals. This will provide an indication whether digital mental health interventions can effectively complement standard care in the primary care setting.

Digital health applications: Undermining or supporting primary care? A descriptive analysis of the DiGA directory

Hendrik Napierala*, Christoph Heintze

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Background

Digital health applications (DiGAs) can be reimbursed as an "app on prescription" by the German statutory health insurance (GKV) since December 2019 due to the Digital Healthcare Act (DVG). The Federal Institute for Drugs and Medical Devices (BfArM) is formally responsible for their accreditation. However, the perspective of medical providers is not included in the DVG and in the legal regulation governing the approval process (DiGAV).

Research question

The purpose of this study is to analyze the role of physicians in the use of these apps as described by publicly available sources.

Methods

We performed a descriptive analysis of cross-sectional data available in the DiGA directory and on the manufacturer websites as of 17 February 2021. We analyzed the prescribing target group, involvement of physicians in the implementation of the DiGAs and the support provided by the manufacturers.

Results

At the time of analysis, 10 DiGAs were included in the DiGA directory. Available apps offer treatment for a variety of indications with a focus on psychiatric disorders (4 apps). Overall, interventions are mostly based on cognitive behavioral therapy. Two apps require specialists (otolaryngologist, specialization in psychotherapy) for implementation. There is only limited information concerning the involvement in the implementation. It ranges from complete self-application to complex follow-ups. Active search is needed to access manufacturers' support. It ranges from a telephone hotline to free-of-charge seminars and test accesses.

Conclusion

It is currently unclear at what level medical providers need to be involved in implementing DiGAs to ensure integrated and patient-centered primary care.

BAIT: A new medical decision support technology based on discrete choice theory1

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We present a novel way to codify medical knowledge and to make it available to support medical decision making. Our approach, called Behavioral AI Technology (BAIT), is based on econometric techniques (also known as conjoint analysis) developed to analyze and forecast consumer behavior; we re-conceptualize them and put them to use to generate an explainable, tractable decision support system for medical experts. Using choice experiments containing systematically composed hypothetical choice scenarios, we collect a set of expert decisions. Then we use those decisions to estimate the weights that experts implicitly assign to various decision factors. The resulting choice model is able to generate a probabilistic assessment for real life decision situations, in combination with an explanation of which factors led to the assessment. We test the choice model approach to support medical decision making by applying it in the context of the difficult choice to proceed with surgery versus comfort care in preterm infants with Necrotizing Enterocolitis (NEC). BAIT succeeded in identifying the tacit knowledge of four surgeons and eleven neonatologists of the University Medical Centre of Groningen (UMCG) regarding this decision. Participants of the study considered both the importance weights per factor and the assessment generated by the model that was equipped with the estimated importance weights as intuitive. Future research should focus on comparisons with conventional medical decision support systems (rule based as well as machine learning based methods) and on dynamic applications where the system is being updated with each new real-life choice made.

Future Healthcare: Electronic Devices taking over?

Rien Breteler

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Background

For more than sixty years now, technology has been applied to improve mental functioning by learning subjects to control aspects of their physical state. Muscle tension, skin conductance, blood pressure, and more recently, heart rate variability are some of the most wellknown. Currently, brain-based methods like EEG- and fMRI-neurofeedback, and stimulation techniques like rTMS, tDCS and light stimulation are applied by psychiatrists and psychologists in mental health care and further developments like ultrasound await us. Pro's and cons of this development concern possibly more freedom in dealing with environmental stressors for the clients, yet also a narrowed theoretical view, increasingly equating mental health with brain functions.

Research question

What is the evidence in favor the application of electronic devices in Mental Health care, and what are its limitations?

Methods

In a qualitative review reported effects of the mainstream applications will be described, based on meta-analyses in the various fields

Results

The support for the reviewed techniques varies from possibly efficacious (tDCS) to effective and specific (rTMS). Their applicability varies widely with limited support for most mental health complaints. Apart from methodological quality, many studies appear to be biased by a biological/technological optimism, ignoring non-experimental conditions playing a role in the behavioural change.

Conclusion

This presentation describes these developments and their limitations, and calls for a prudent approach of new research that hails the progress of yet another new device to improve brain functioning. Relevant behavioural assessments and control for non-experimental factors should be incorporated in research to improve validation for mental health applications.

Gut feelings of patients in general practice: validating a questionnaire

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Background

Research indicated that patients' feelings of worriedness play a role in their physicians' clinical reasoning and judgment of clinical tribunals. Interviews with primary care workers and patients showed how these feelings are expressed. Based on these expressions we developed a questionnaire to measure gut feelings of patients.

Research question

Is the Gut Feelings Questionaire for patients (GFQ-pat) valid and does it measure a different construct than hypochondria?

Method

The GFQ-pat contained 10 items distinguishing a sense of reassurance (SR, 2 items), a sense alarm (SA, 4 items) and a sense for need of management (SNM, 3 items). We examined construct and discriminant validity using an online questionnaire filled out by 181 healthy participants of 18-30 years old. After the Whiteley-Index-7 (7 items) measuring hypochondria, participants filled out the GFQ-pat for three different vignettes presenting a clear SR and SA case and an ambiguous case. Specific hypotheses tested validity.

Results

For the SA and SR case, analysis showed one factor with SR and SA items as opposites, high internal consistency and expected correlations among these items. Participants scored higher on the SA than the SR items in the SA case and the other way around in the SR case. The SNM items did not show clear patterns. In the ambiguous case, participants scored higher on the SR items than the SA items, also the two groups scoring highest and lowest on the Whitley-Index-7.

Conclusion

The GFQ-pat with SA and SR items is valid measuring gut feelings in specific cases.

Gut feelings of patients in general practice: description and significance

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Background

General practitioners' diagnostic gut feelings (GF) proved to be valuable. But what about patients' GF? Dutch medical tribunals consider patients' worry useful for doctors' diagnostics. Research showed that patients' GF contribute to their physicians' clinical reasoning but how this happens is unclear.

Research questions

How do primary care workers (PCWs) recognise a patient's GF? Do they use them in their clinical reasoning? How do patients express their GF? Do they believe that PCWs take their worry seriously?

Methods/Study design

We used interviews to explore Dutch and Flemish PCWs' views on patients' GF. We also interviewed Dutch patients visiting out-of-hours surgeries or daily practices about their GF. We coded all interviews using a thematic content analysis in a circular, iterative process. Data saturation was achieved.

Results

PCWs recognised patients' GF. They regularly considered them valuable by making them more alert to possible hidden problems and sometimes by quicker acquiring insight into patients' perceptions. Apart from non-verbal signs, PCWs listed a whole series of wordings related to (dis)trust or to changes in normal patterns. Almost all patients experienced GF, particularly the sense of alarm. They often trusted them, especially parents of sick children. They used many expressions to voice their GF. They felt relieved when PCWs took their GF seriously. Flemish patients seemed to be more reserved to communicate them with PCWs than Dutch patients.

Conclusion

Patients trusted their GF and regularly PCWs considered them valuable. The next step could be to compose and validate a questionnaire measuring patients' GF.

The GLANCE study: Exploring the role, use, and utility of General Practitioners' gut feelings for cancer and serious disease in primary care.

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Background

Gut feelings (GFs), often described as a sense of alarm or reassurance for a patient's health are increasingly accepted as a component of clinical reasoning in primary care. Our objective was summarize the literature on GF, and explore the views of GPs and patients about GF in primary care.

Methods

GLANCE is a mixed methods study incorporating three sub-studies: a systematic review and meta-analysis and two qualitative interview studies with 19 GPs and 21 patients who had used an urgent referral pathway for non-specific symptoms that includes the option to refer based on GP GF.

Results

Twelve papers and four web resources were included in the systematic review. GPs conceptualised GF as suspicion that grew out of unease not necessarily based on clinical evidence which could lead to difficulties acting on them. The pooled odds of cancer diagnosis were four times higher when GFs were recorded (OR 4.24 (95% CI 2.26 to 7.94)). Results from the interviews showed that GPs and patients support the use of GFs in primary care and see them as a manifestation of clinician expertise. GPs described GFs as being particularly useful to navigate the 'grey area' of primary care where the patient's presentation is not sufficiently dealt with in referral guidelines.

Conclusion

This suggests that patients and GPs are supportive of the use of GFs especially if they are lent legitimacy by factors in relation to the GP (e.g. more experience) and the consultation (e.g. gathering evidence to support a GF).

OBVL-K as a clinical/digital tool for monitoring parenting stress

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The OBVL-K has been developed as a short instrument for measuring parenting stress during family treatment. The instrument is a shortened version of the OBVL, which is a replacement of the parental domain of the NOSI. The OBVL is now widely used in systemic interventions for families with multiple problems. In this study, we explored whether the OBVL-K is also applicable to this specific population and whether its psychometric characteristics are similar to those of the OBVL. We examined the reliability and validity of the OBVL-K, as well as its sensitivity to change in parenting stress during treatment. The OBVL and/or OBVL-K, the VGFO (Questionnaire about Family functioning) and the CBCL were administered to nearly 6,000 families at the start and end of treatment at six youth care agencies. The OBVL-K appears to be a reliable and valid instrument for measuring parenting stress within families with multiple problems. The OBVL-K also appears to be sensitive to change.

In a recent study, we asked 245 parents to monthly monitor the parentingstress with the OBVL-K. This resulted into profiles of the parenting stress over time. In addition a clinical toolkit was created to signal relaps or stagnation and provide tools for professionals to intervene and to evaluate treatment. We however do not know what the influence is of this actionresearch on the outcome. We would like the audience to discuss (or to evaluate) the OBVL-K as a clinical/digital tool for monitoring treatment and or its usefulness as a digital decision making tool.

co-presenter: Dr. Ronald de Meyer, Praktikon

Posters

Worry, risk perception, and controllability predict intentions towards COVID-19 preventive behaviors

Agata Sobkow 1*, Tomasz Zaleskiewicz 2, Dafina Petrova 3,4,5, Rocio Garcia-Retamero 6, Jakub Traczyk 1

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2 Center for Research in Economic Behavior, Faculty of Psychology in Wroclaw, SWPS University of Social Sciences and Humanities, Wroclaw, Poland

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4 Instituto de Investigación Biosanitaria ibs.GRANADA, Granada, Spain.

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Research question

In the present study, we investigated what factors can motivate young adults to comply with preventive measures against coronavirus infection. Even though young people are less likely to suffer severe medical consequences from the virus, they can still transmit it to more vulnerable individuals.

Methods

In March 2020, two hundred and fifty-three students from Poland completed an online questionnaire. Participants were randomly assigned to one of the five experimental conditions 1) the control condition, 2) the enhance self-efficacy condition, 3) the positive mental images related to COVID-19 pandemic condition, 4) the visual aid condition receiving a figure showing the cumulative number of SARS-CoV-2 cases in Poland, and 5) the visual aid condition receiving a figure showing the cumulative number of SARS-CoV-2 cases in different countries. Next, they were asked to estimate (and forecast) the number of SARS-CoV-2 cases in Poland and complete other COVID-19 related measures (e.g., intentions towards preventive behaviors, sources of worry, statistics stalking, controllability, and risk perception).

Results

Surprisingly, we found no significant effects of previously successful experimental manipulations (i.e., positive mental imagery, enhancing self-efficacy, and visual aids). Instead, intentions towards preventive behaviors were predicted by self-reported worry, perceived controllability of the pandemic, and risk perception. Interestingly, worry about health, and worry about restricting personal freedom, predicted behavioral intentions in diverging directions: participants who were worried about health were more willing to obey restrictions, but those worried about personal restrictions, were less ready to adopt these preventive actions.

Strengthening the healthcare system: utilizing nudging & boosting during the COVID-19 pandemic

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One of the most utilized behavioral change approaches on an individual or societal level is 'nudging'. However, it is not the only approach that can be used to change behavior effectively. As an alternative, choice architects may utilize another type of intervention called 'boosting', which promises a generalized, lasting behavioral change. We argue that both nudging and boosting may serve as active aids in the public policy system's support. Especially concerning emerging social issues or events that are unprecedented such as the recent COVID-19 pandemic, nudging and boosting can support the legal and healthcare system responses, where certain behavioral patterns are expected to follow adopted policy. Our presentation will shed light on the usage of nudges and boosts throughout the COVID-19 pandemic, supporting decision-makers in public spaces and during their online activities. A wide range of interventions is adopted to promote the WHO recommendations as social distancing, wearing masks, and hand washing. Apart from these, we will indicate interventions targeting side effects of a pandemic such as stockpiling behavior, chronic loneliness, and what might be called an "infodemic". We strongly believe that behavioral interventions may be vital empowerment of healthcare responses towards pandemic offline and online.

Intertemporal and risky decision making and attitudes towards COVID-19 pandemic and vaccinations

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Discounting refers to a decrease in the subjective value of an outcome with increasing costs associated with obtaining it. Individual discounting rates have been shown to be linked to various maladaptive behaviors. In the current study, we investigate the relationships between the discounting processes and attitudes towards the restrictions introduced to protect against the threats caused by the COVID-19 pandemic and attitudes towards vaccines. For this purpose, on a sample of 366 individuals, using a within-subjects research design, we examine discounting behavior across a wide range of conditions by considering the role of cost factors (delay/risk), different magnitudes of the outcomes, domains (monetary/health), and signs (gain/loss). We also inspect attitudes towards regulations introduced due to the COVID-19 pandemic, vaccination, and potential moderators of the relationship of interest, such as psychological flexibility and trait and state anxiety. By doing so, we aim to establish a link between the fundamental decision-making processes and the attitudes of major importance in times

of pandemia. Understanding such relations is necessary to design effective behavioral interventions geared toward nudging people's behavior in the direction of greater compliance with the current restrictions.

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