

Ride the Knowledge Wave 1 – #EIE2021

Designing & tailoring implementation strategies

Presenters:

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Presentation 2: Esther H. Bisschops, J.C. de Schipper, B. Schippers, P.J.C.M. Embregts & C. Schuengel, Faculty of Behavioural and Movement Sciences, Clinical Child and Family Studies, Vrije Universiteit Amsterdam – **Netherlands**

Presentation 3: Ass. Prof. Lauren Clack, Aline Wolfensberger, Mirjam Faes Hesse, Marie-Therese Meier & Hugo Sax, University Hospital Zürich – **Switzerland**

Presentation 4: Heather L. Rogers (Biocruces Bizkaia Health Research Institute); Alvaro Sanchez, Susana Pablo, Maite Espinosa, Arturo Garcia, and Gonzalo Grandes - on behalf of the “Prescribe Vida Saludable” Group, the Primary Care Research Unit of Bizkaia, Basque Healthcare Service - Osakidetza, Biocruces Health Research Institute – **Spain**

Presentation 5: Laura Schafthuizen, RN MSc, Lotte Spruit-Bentvelzen, RN MSc, Monique van Dijk, RN PhD & Erwin Ista, RN PhD, Department of Internal Medicine; Joost van Rosmalen, PhD, Department of Biostatistics – Erasmus University Medical Centre, Rotterdam – **Netherlands**



Presentation 1: Implementation strategies used to implement nursing guidelines in daily practice: A systematic review

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Research Aim

The objective of this review was to provide an overview of strategies used to implement nursing guidelines in all nursing fields, as well as the effects of these strategies on patient-related nursing outcomes and guideline adherence. Ideally, the findings would help guideline developers, healthcare professionals and organizations to implement nursing guidelines in practice.

Methods

We conducted a systematic review. Studies were included that described quantitative data measuring implementation and patient outcomes of implementation strategies used with any type of a nursing guideline in any setting. No language or date of publication restriction was used. The Cochrane Effective Practice and Organisation of Care taxonomy was used to categorise implementation strategies. Studies were classified as effective if a significant change in either patient-related nursing outcomes or guideline adherence was described. Strength of the evidence was evaluated using the 'Cochrane Risk of Bias tool' for controlled studies, and the 'Newcastle-Ottawa Quality Assessment form' for cohort studies.

Key Findings

A total of 54 articles reporting 53 different guideline implementation studies were included. Fifteen were (cluster) Randomized Controlled Trials or controlled before-after studies and 38 studies used a before-after design. The median number of implementation strategies used was 6 (IQR 4-8) per study. Educational strategies were used in nearly all studies (98.1%), followed by deployment of local opinion leaders (54.7%) and audit and feedback (41.5%). A wide variety of implementation strategies are used to implement nursing guidelines. Not one single strategy, or combination of strategies, can be linked directly to successful implementation of nursing guidelines.

Discussion

Was the EPOC taxonomy the right taxonomy to categorize the used strategies in nursing guideline implementation studies? How to deal with the wide variety in degree of details of the used implementation strategies? Future studies should use a standardized reporting checklist to ensure a detailed description of the used implementation strategies to increase reproducibility and understanding of outcomes.

Presentation 2: Implementing a Multi-Disciplinary Expertise Team method to reduce restrictive measures in care for people with intellectual disabilities: Content of implementation interventions

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Research Aim

Reducing restrictive measures (RM) in long-term-care is known to be a challenge for support staff teams due to risks caused by aggressive behaviour of residents with intellectual disabilities. A randomized controlled trial tested the effect of implementing a Multi-disciplinary Expert Team (MDET) to reduce RM. Despite the risks, accelerated reduction of RM was observed in units randomized to receive MDET. Following these findings, we explored which professional implementation interventions were used to implement the MDET method in long term care for people with intellectual disabilities and what social mechanisms were manifest in interactions with staff.

Methods

MDET was implemented in 19 residential units. Using the theoretical lens of Normalization Process Theory (NPT), implementation interventions that might have helped professionals adopt MDET were examined. The process notes and the MDET plans for each unit were coded both deductively (using EPOC framework for professional implementation interventions) and inductively, to identify and adapt (the meaning of) used interventions in the six consecutive phases of the MDET method. The NPT-EPOC professional intervention coding framework (Johnson & May, 2015) was applied to identify the social mechanisms of the implementation process of MDET.

Key Findings

A range of actions could be reconstructed and identified as implementation interventions described by EPOC. Additional implementation interventions and subcategories were identified that may be specific to long term care for people with ID. Descriptions of implementation interventions were adjusted to this care setting. The added and adapted interventions were mapped to NPT constructs, resulting in an adapted NPT-EPOC framework. Educational Outreach-treatment interventions, Patient-Related Interventions and Local Consensus Processes were most widely used during implementation of MDET.

Discussion

Equal interaction and cooperation is essential for the implementation of methods that reduce RM. Content analysis suggests adjustments to EPOC professional implementation interventions to meet the needs of this care setting.

Presentation 3: Participatory selection of implementation interventions as part of a tailored implementation strategy to prevent hospital-acquired pneumonia

Ass. Prof. Lauren Clack, Aline Wolfensberger, Mirjam Faes Hesse, Marie-Therese Meier & Hugo Sax, University Hospital Zürich – **Switzerland**

Research Aim

Hospital-acquired, non-ventilator-associated pneumonia (nvHAP) represent a significant portion of all cases of hospital-acquired pneumonia and leads to substantial morbidity and mortality. Yet, current research and prevention efforts focus almost exclusively on ventilator-associated pneumonia. To address this research gap, we undertook a hybrid type 2 implementation-effectiveness study to assess the tailored implementation of a 5-measure nvHAP prevention bundle in nine departments of a tertiary care university hospital. The research aim was to compare the department-specific implementation interventions that were proposed based on a theoretically informed exploration of local behavioural determinants with those selected in a participatory process with clinicians based on feasibility and anticipated improvement opportunity.

Methods

Study authors formed a central coordinating team and three “nvHAP delegates” representing the involved professional groups (nurses, physicians, physiotherapists) were identified in each participating department. During baseline, potential barriers and facilitators to bundle adherence were identified through exploratory observations and semi-structured interviews with frontline staff and nvHAP delegates from each department. Observation notes and interview transcripts were coded deductively using the Theoretical Domains Framework, allowing a theoretically informed interpretation of mentioned behavioural determinants. Following the selection of tailored interventions, the study team used a theory-based, participatory approach to propose potential interventions to be ultimately selected and adapted by local nvHAP delegates based on feasibility and expected improvement opportunity. Chosen implementation interventions were documented in local action plans for each department, serving as guides for subsequent implementation processes.

Key Findings

A total of 23 observations, 31 frontline interviews, and 9 interviews with nvHAP delegates were conducted to identify potential barriers and facilitators. These varied by department and included: knowledge (e.g., lack of awareness of guidelines), social/professional role (e.g., ambiguity about professional responsibilities), skills (e.g., lack of prior experience, technical skills), and environmental context and resources (e.g., lack of time, ease of access and visibility of materials and equipment). Specific implementation interventions to address these factors included: education (e.g., informational events to increase knowledge about nvHAP and preventative measures and to clarify professional responsibilities), training (e.g., practical skills training to identify patient dysphagia), and environmental restructuring (e.g., posting informational posters as reminders, oral-care sets). Interventions were also adapted to local contexts.

Discussion

What are the most suitable methods for identifying determinants and selecting tailored implementation interventions? How can we best use a participatory approach to ensure that implementation is adequately informed by on-the-ground practical knowledge and experience?

Presentation 4: Integrating Health Promotion into Primary Care: Collaborative Modelling and the “Prescribe Vida Saludable”¹ (PVS) Program

Heather L. Rogers (Biocruces Bizkaia Health Research Institute); Alvaro Sanchez, Susana Pablo, Maite Espinosa, Arturo Garcia, and Gonzalo Grandes - on behalf of the “Prescribe Vida Saludable” Group, the Primary Care Research Unit of Bizkaia, Basque Healthcare Service - Osakidetza, Biocruces Health Research Institute – **Spain**

Research Aim

To optimize the generalized adoption of physical activity, balanced diet, and smoking cessation in primary care and the community, local primary health care (PHC) centres within the Basque Healthcare System (Osakidetza) and their communities in Bizkaia, Spain participated in an implementation research trial.

Methods

The health promotion intervention was developed based on social learning and planned behaviour theories and the 5 A's (Ask, Advise, Agree, Assist, and Arrange follow-up) intervention framework. Implementation strategy phases were modelled based on the Medical Research Council's evaluation framework. In the modelling phase, four PHC centres followed an implementation strategy based on a collaborative and facilitated process and planned and designed intervention programs adapted to their specific contexts and resources. Community organizations were included in the planning. In the optimization phase, a quasi-experimental non-randomized hybrid effectiveness - implementation type II trial was conducted, based on an Experimental Group (EG) including four PHC centres willing to adopt health promotion and a Reference Group (RG) of three other centres. Both groups received clinical training, educational materials, and feedback, but only the EG received the collaborative modelling component of the implementation strategy.

Key Findings

After 20 months of implementation, analysis of 38,247 PHC users aged 10-80 indicated that EG vs. RG proportions were: 44% vs. 9% for receiving an assessment of physical activity, diet, and/or tobacco; 23% vs. 5% for receiving personalized preventive advice, and 5% vs. 1% for receiving a personalized prescription for behaviour change. Prescription rates increased 2.1-8.4 times in the intervention PHC centres, depending on the specific behaviour change prescribed. Of users wanting to improve their lifestyle behaviours, preliminary results indicate that those receiving a prescription were 2.7 times more likely to change their habits at six months compared to those who did not receive a prescription.

Discussion

Should Implementation Science be included in the curriculum for all health professionals? What assessment strategies should be used to evaluate curriculum outcomes and effectiveness?

¹ Prescribe Vida Saludable = Prescribing Healthy Lifestyles

Presentation 5: Implementation of a nursing oral health care protocol in an academic setting: a cluster randomized stepped-wedge design

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Research Aim

This study aimed to investigate the effects of implementing a nursing evidence-based oral care protocol on nurses' level of oral health-related knowledge and attitude and protocol adherence among nurses. The study population involved activities of daily living (ADL) dependent hospitalized patients (> 18 years) and nurses from selected clinical units of a 560-bed university teaching hospital, employing approximately 2.500 nurses.

Methods

In a cluster-randomized stepped-wedge study, a nurse evidence based oral care protocol was implemented in four clusters. The interval of each implementation phase was two months. The protocol focused on basic oral care in ADL dependent patients.

We developed a tailored implementation strategy, which consisted of the following activities:

- 1-hour informative oral presentation by dental hygienist
- Posters and flyers
- Short instruction videos
- Keychain of a denture as a present and reminder
- Informative email

The primary outcome was nurses' knowledge and attitude of oral care; measured with a 34-item-validated questionnaire with a minimum score of 0 and a maximum score of 100. The secondary outcome was protocol adherence among nurses as evaluated by ADL dependent patients.

Key Findings

Nurses' knowledge about oral care significantly improved from 68.8 to 72.3 ($p<0.001$). For the variable *attitude*, no significant differences were found between the two groups ($p=0.32$). Mean score before implementation was 70.2 and after implementation 70.8. Adherence to providing oral care in ADL-dependent patients by protocol decreased significantly from 60% of 73 patients before implementation to 35% of 51 patients post-implementation ($p=0.006$).

Discussion

Knowledge and attitude are two different constructs. How could they be improved separately in a different way and which strategies do we need? Oral health care is a nurses' daily routine. It is a challenge to change daily routines towards evidence-based practice. Which implementation strategies are effective?