



The 3rd European Health Literacy Conference



Developing Health Literacy During the Life Course

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Welcome and thankyou

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On the next pages you find the abstracts of the oral presentations and the posters of the Third European Health Literacy Conference Improving health literacy during the life course.

The conference took place in Brussels, Belgium from 17-19 November 2015, and was organised by Health Literacy Europe, the IROHLA consortium and the University Medical Center Groningen.

Two European projects, Diabetes Literacy and the Intervention Research On Health Literacy of the Ageing population in Europe (IROHLA), shared their research findings as pre-conferences of the Third European Health Literacy Conference. They also acted as the promoters of this conference.

The focus of the Third European Health Literacy Conference was on the life course perspective in health literacy practice. How develops health literacy during the life course, and how does an increase of health literacy contribute to healthy ageing? The Scientific Committee invited the academics and implementation experts to share their knowledge in a wide range of areas related to health literacy.

This call led to the submission of many abstracts, often of very high quality. The Scientific Committee reviewed all abstracts and selected the best 50 abstracts for oral presentation and nearly 70 abstracts for poster presentations. These cover the whole field of health literacy research and practice, ranging

from measuring health literacy to results of interventions in young people, older people and specific groups of patients. This included new and innovative approaches in use of information and communication technology.

You find all abstracts in this book of abstracts grouped per theme. This will enable you to quickly find information regarding your area of interest.

I want to take this opportunity to also thank all individuals and groups who have submitted abstracts and contributed to increasing our insights into the backgrounds of health literacy and to extending our views on the potential to improve health literacy outcomes. This will push forward science and also practice in health literacy.

I want to thank the members of the Scientific Committee and my co-workers in the Department of Health Sciences at the University Medical Center in Groningen for their major contributions and efforts to make the conference successful. Their names can be found below. This Third European Health Literacy Conference was bigger than the previous ones. I am confident that the interest in health literacy research and practice in Europe will continue to grow over the coming years. I look forward to a next, even bigger, conference.

Prof.SA. (Menno) Reijneveld

Chair of the Scientific Committee
Third European Health Literacy Conference

Thank You to the Members of the Scientific Committee:

Name	Institution	Position	Country
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Abstracts

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2. Oral Presentations

2.a Capacity Building for Health Literacy

2.a i) What do Occupational Therapists know about Health Literacy? A participatory action research study?

Introduction

There is general consensus that health literacy (HL) requires a rethinking of the practice and training of health professionals. Nevertheless, considerations about HL in occupational therapy (OT) have only been starting quite recently.

There is evidence for the relevance of HL to the OT profession from North America and Australia but similar information is lacking in the European context. Research is needed on current practice but also on professional's competencies and their expansion regarding HL in light of life-long learning. HL was introduced to German OTs and constitutes the first European reference point. The goal of this research is twofold: to get an overview on OTs opinions on HL and to facilitate change in the field.

Methods

A mapping review was carried out to inform a participatory action research (PAR) approach. Focus groups were employed to introduce HL to fellow OTs in order to make use of the dynamic interaction of participants and to get a variety of relevant ideas on the topic. The involvement of OTs in their own process of life-long learning and professional development was ensured.

Sampling was purposive, using the researcher's professional contacts as she is an OT herself. Three focus groups were conducted with an overall of 16 participants. Practitioners, students and teachers/lecturers were involved. Interviews were digitally recorded and transcribed. Content analysis was conducted using NVivo 10 and guided by what emerged from the data and the results of the mapping review.

Results

Good practice of OTs, (need for) training addressing HL specifically and recommendations for OT practice and education concerning HL were reported in the literature. It became apparent in all Focus Groups that HL was a new topic for OTs. Nevertheless, they all connected the theoretical concept, using the integrated Model of HL (Sorensen et al, 2012), with their practice and educational experience. They recognized OTs core competencies as essential in fostering HL in clients and stated that OTs have already a very developed skill-set to do so, especially due to concepts which are central to the profession (such as client-centred practice and shared-decision making). HL was therefore identified as profound to the profession. The importance

of reflecting on one's own HL and including reflections into the German entrance level curriculum to provide good quality services to clients, was stressed throughout the focus groups.

Conclusions

Although HL is a new concept for German OTs, especially facets of applying health information are already included in everyday practice due to OTs professional skills and competences. Many topics raised in the Focus Groups overlapped with findings of the literature review, stressing the relevance of the topic for German OTs. The results may also give a hint at the transferability of American and Australian conceptual literature on OT and HL to a European context, showing a rather large conformity of basic ideas in the overall profession. Nevertheless, the findings also show that there is still a great need to disseminate HL as a concept to OTs and make them aware how to capitalise their skills for HL.

Authors: Ms Eva Denysiuk (Maastricht University)

2.a ii) What does the health care professional know from, think of and do about low literacy and what are his needs? A preparing study for the campaign Language makes more healthy in the health care in the Netherlands

Introduction

In the Netherlands 1.3 million people between 16 and 65 years old are low literate (12%). Low literacy has a negative impact on quality of life, especially on health. It's proven that language lessons improve not only the language skills but also experienced health, physically as well as psychologically. For this reason in 2014 Reading & Writing Foundation and VELO (a cooperation of different health care organisations) developed a campaign called Language makes more healthy. The campaign is directed at health care professionals in order to make them more aware of the problems around low literacy and to inspire them to act on it. In 2014 a study was obtained to get insight into the state of affairs around low literacy among health care professionals and about their needs in order to become (more) active in recognising and discussing reading and writing problems and refer low literate patients to language lessons. Results were used to develop different campaign materials.

Methods

An online cross-sectional questionnaire study was carried out among 535 health care professionals. VELO partners did send an invitation for the online questionnaire by e-mail and invitations were posted on the websites of several partner organisations.



Results

The results revealed that health care professionals do not give much attention to low literacy. Additionally, they more often think than talk about (the consequences of) low literacy. Unless the fact that 73% of the health care professionals do know the definition of low literacy still 59% underestimate the number of, especially native, low literate people. Health care professionals have a positive attitude towards (the benefits of) the approach of low literacy. Most of them agreed the society have to worry and do more about low literacy (86%) and agree on the negative impact of low literacy towards quality of life and health (77%). Additionally most health care professionals do agree that literacy can save time and contribute to a better treatment relationship between them and the patient. Despite this positive attitude health care professionals rarely discuss low literacy (sometimes or never: 86%) and more than three quarter did never refer patients to language lessons (78%).

Conclusions

There is room for improvement regarding the awareness, knowledge and behaviour of health care professionals. The results of the study support the importance of a campaign to make health care professionals more aware and enthusiastic addressing low literacy. We expect the campaign Language makes more healthy to be successful on:

- ▶ increasing the importance of the low literacy approach and the knowledge of the amount of (native) low literate people
- ▶ convincing health care professionals of their task supporting low literate people
- ▶ providing health care professionals with appropriate knowledge and materials
- ▶ stimulating a sustainable solution (i.e. language lessons)
- ▶ increasing the discussion about reading and writing problems also via patients.

Authors: Ms Marieke Wiebing (Reading & Writing Foundation. The Netherlands), Ms Marloes Martens (ResCon. The Netherlands), Ms Arlette Hesselink (ResCon. The Netherlands)

2.a iii) Development and pilot-testing of a health literacy focused communication training in co-creation with European health professionals.

Introduction

Health literacy knowledge and communication skills of health professionals can reduce the health literacy problems of older adults. However, training is not systematically evaluated and adapted to the European context of health professionals.

The aim of this study is the systematic development of a theory based training on health literate communication adapted to the context of European health professionals.

Methods

A mixed method approach is used to develop the training. We searched the literature on effective interventions on health literate communication.

Furthermore, we conducted a series of 3 focus groups with professionals in 3 different countries (Ireland, Italy and the Netherlands) to 1. investigate experiences and needs regarding training, 2. obtain opinions and feedback of professionals on the training outline, 3. evaluate experiences of professionals during pilot testing of the training. Focus group data were analysed using directed content analysis. The training will be developed and pilot tested.

Results

The literature study indicated that health literacy knowledge, clear communication and teach back are frequently addressed in training. Communication skills, such as fostering empathetic relationships, shared decision making and enabling self-management tend to be important and may facilitate the development of interactive and critical health literacy skills among patients, however, they are addressed less frequently in training.

In the first series of focus groups, results showed that professionals recognized the importance of health literacy and had frequent interactions with patients experiencing health literacy problems. According to these professionals, training should be provided to multidisciplinary teams and address patient needs, evidence based interventions, critical situations, and practicing of communication skills.

In the second series of focus groups, feedback of professionals on the training outline showed that professionals felt that the content was relevant to teach and that they liked the mix of didactical and experiential learning strategies. Practicing communication skills was perceived as essential as well as getting personalised feedback. After some initial hesitation, professionals felt positive to include role-play in the training.

A training was developed and pilot-tested, which included interactive didactic sessions to increase knowledge, awareness and experiential learning to practice skills. Furthermore, a follow up session promotes integration of learning in practice. After the training, professionals indicated their awareness, knowledge and skills on health literacy and communication strategies had increased. Professionals preferred an interactive didactic format and they liked the role-plays and review of their recorded interaction with a simulation patient.

Conclusions

The literature study and the series of focus groups informed the systematic development of a modular training in health literacy focused communication. The training was pilot tested in three multidisciplinary teams of professionals in the European health care context. Implementation of a European-training in health literacy focused communication can be enhanced through a process of curriculum co-creation with health professionals, skilled country specific facilitators and the use of roleplay situations from their practice.

Authors: Mrs Marise Kaper (University Medical Center Groningen (UMCG)), Dr Andrea de Winter (University Medical Center Groningen (UMCG)), Dr Jane Sixsmith (National University of Ireland, Galway (NUIG)), Mrs Priscilla Doyle (National University of Ireland, Galway (NUIG)), Mrs Cinzia Giammarchi (The Regional Agency for Health - ARS of the Marche Region), Mrs Roberta



Bevilacqua (Italian National Research Centre on Ageing (INRCA)), Mr Jan Jansen (Dutch Institute for Health Care Improvement (CBO)), Dr Wolter Paans (Hanze University of Applied Sciences (HUAS)), Dr Herman Veenker (Hanze University of Applied Sciences (HUAS)), Dr Sacha van Twillert (University Medical Centre Groningen - Center for Rehabilitation (UMCG))

2a.iv) How competent are future General Practitioners in addressing health literacy in practice?

Research developments in the field of health literacy emphasize the responsibility of health care organizations in facilitating navigation of health systems. The role of health professionals in addressing health literacy in practice is increasingly being recognized in improving health literacy of the population. Given the orientation of health services towards primary care, General Practitioners (GPs) are the specialists most in contact with patients and are therefore in the best position to address health literacy issues. With almost half of medical students in the UK specializing in general practice, medical education has the responsibility of preparing trainees in developing their competencies in relation to health literacy. This study investigates the competencies of GP trainees in addressing health literacy in practice in one region in England. A cross-sectional survey of the health literacy competencies of a convenience sample of 206 GP trainees in relation to health literacy related knowledge, attitudes and skills was conducted online between January and March 2015. Univariate descriptive analysis was carried out for all outcome and independent variables of the study. Bivariate analysis was conducted to explore the association between measures of competence and socio-demographic characteristics of GP trainees. This was driven by research questions generated based on results of a previous qualitative study with stakeholders of medical education according to which variability in the curriculum implementation and delivery could result in different levels of health literacy-related competencies among different groups of GP trainees. A high proportion of respondents (74.7%) overestimated numeracy levels of the English population but they were able to recognize a "red flag" for low health literacy. 13.4% of respondents overestimated literacy levels of the English population, while 17% also overestimated the recommended reading level for written health information. The majority of respondents were knowledgeable about spoken communication and correctly identified the method of checking for patients' understanding (96.7%) but they were not as confident when applying the technique. Although they agreed health systems were difficult to navigate (94.3%), the majority thought it is the patient's responsibility to find their way to the appointment (87.5%) or understand their health care (69.3%). Respondents were more confident in certain spoken communication techniques but less confident in using visuals to facilitate understanding of health information. 72.7% of respondents believed health literacy was never or rarely mentioned in the curriculum while 65.9% believed that health literacy related skills were not sufficiently addressed in the curriculum. GP trainees' competence varied between different groups: White participants were more knowledgeable and had more positive attitudes towards health literacy than Asian/Asian British or other ethnic groups while those rating their skills

more highly were also more familiar with the health literacy concept (<0.001). GP trainees' health literacy related competencies might not be sufficient to tackle health literacy issues in practice. Although respondents were knowledgeable in some areas of health literacy, they were less confident when translating their knowledge into skills, indicating gaps in the medical education curriculum. This study could guide curriculum shapers in addressing existing gaps in competence development.

Authors: Mrs Oana R. Groene (London South Bank University), Ms Jane Wills (Professor of Health Promotion, Faculty of Health and Social Care, London South Bank University (UK)), Ms Gill Rowlands (Prof of Public Health Aarhus University (DK))

2.a v) A European consensus on health literacy competencies among healthcare personnel

Background

Health literacy is a vital component for healthcare systems and personnel, although there is limited research about this in European level. Capacity building is needed to improve the efficiency of the healthcare systems in Europe and to support the patients in self-management. A consensus between the different countries is needed about which health literacy competencies would lead to best health outcomes. Therefore, the aim of this Delphi study was to validate the Health Literacy Practices and Educational Competencies for Health Professionals developed by Coleman et al. (2013) of health literacy competencies relevant to the healthcare personnel in Europe.

Method

The modified Delphi method was used via online data collection to achieve consensus between 20 health literacy and healthcare experts from 10 professional fields representing 13 European countries. Within three anonymous roundtables participants validated essential health literacy competencies on a four-point Likert scale and provided written feedback and recommendations. If 70% or more of the participants agreed on the competence, it was included to the final list.

Results

The final set consisted of 94 health literacy competencies and was divided in original categories of knowledge, skills, attitudes and practices as in Coleman et al. (2013) study. A thematic analysis of the qualitative data revealed deeper insights to the suitability and validity of the proposed health literacy competencies.

Conclusion

The consensus was reached about the set of health literacy competencies for European healthcare personnel. The list was validated and modified to assist healthcare personnel to understand their role in these evolving health literacy practices and to establish guidelines and performance indicators for European context. Based on findings, most important competencies in clinical setting



were considered to be related to direct patient care responsibilities such as those associated with oral communication, patient-centred care, cultural competencies and multi-professional collaboration. This set of health literacy competencies can further assist in prioritisation of standard guidelines, investigating the currently practised competencies and drafting educational curricula to maximise the health literacy friendliness in health care organizations.

Authors: Ms Suvi Ristolainen (Lund University)

2.b Disease Management and Health Literacy

2.b i) Comparative analysis of diabetes self-management educational programs for people with diverse health literacy levels in Europe, Israel, the US and Taiwan. Diabetes Literacy -project.

Introduction

Diabetes self-management education is considered to be crucial to achieve competences for living with diabetes. Various diabetes self-management education (DSME) programs have been developed in Europe and in other parts of the world. Ever increasing prevalence of diabetes and unprecedented economic constraints on health systems have created an even greater demand for effective programs. Based on a comparative analysis of previously and currently implemented DSME programs in the EU member states (EU MS), various components of effective DSME programs have been identified. This is essential for developing guidelines for design of effective, low cost, and sustainable educational programs for different patient groups with various needs and health literacy skills.

Methods

The current status of DSME in EU member states (EU MS) and in Israel, the US and Taiwan was assessed in context of the European Commission supported Diabetes Literacy -project based on data collected in a Wiki tool (WT) during 2014, targeting patients and different stakeholders working in the field of diabetes care. The online questionnaire was available in seven languages (English, German, French, Dutch, Spanish, Hebrew, Mandarin), at www.globaldiabetessurvey.com. Additionally, a systematic review (SR) was performed in PubMed by using combinations of key words related to DSME to include published data regarding DSME in Europe from 1983 to 2014.

Results

139 DSME programs (102 for EU MS) were reported in WT and 154 programs were collected from SR. WT shows that 38%, 60%, and 8% programs are for individuals with T1D, T2D and peer groups respectively. It also shows that 76%, 8% and 6% programs are targeted at adult, children and elderly age group respectively while 45% (32% for just EU MS) of the programs were tailored to the people with low literacy level using film demonstration, illustrative material, role plays and drama. Moreover, 31% (20% for just EU MS) of the programs were devoted to the minorities. Most of the interventions are delivered in groups while only few programs (7% WT vs. 19% SR) utilize computerized technology for teaching and learning.

Conclusions

The comparative analysis of the DSME performed in EU MS reveals that there is a substantial modification in different components of current DSME programs compared to previously practiced (SR) studies. More focus needs to be placed on minorities and people with low literacy for appropriately designed and successful DSME programs. In addition, more use of ICT technology may be a relevant method to improve diabetes self-management and patients' health literacy.

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2.b ii) Is health literacy associated with autonomous motivation for appropriate health behaviour in people with type 2 diabetes?

Introduction

Prevention of Type 2 diabetes complications requires a high level of lasting action from the patients to adhere to evidence-based treatment recommendations. Self-determination Theory (SDT) is an empirically-derived theory of motivation that describes the importance of the quality of the motivation for making behavioural changes. The quality of motivation depends on whether the regulation of actions are imposed by others or oneself (controlled motivation) or by the true feeling of free choice and personal endorsement of the outcomes attained by the actions (autonomous motivation). Autonomous motivation has been found to be associated with improved quality of life, improved medication adherence, less depression, better diet, and improved cholesterol- and HbA1c-levels in patients with type 2 diabetes. SDT suggests behavioural strategies for health care providers in order to support autonomous motivation in patients. One of the key functions is to provide relevant information while acknowledging the individual perspective in order to promote a reflection process. As health literacy concerns the ability to access, understand, appraise and apply information to make decisions regarding health, we find it highly relevant to investigate the association between the level of health literacy and the degree of autonomous motivation. We expect a positive association between health literacy and autonomous motivation for appropriate health behaviour in people with type 2 diabetes. If so, health literacy theory maybe can guide the content in future autonomy supportive interventions.

Methods

The association between the level of health literacy and the degree of autonomous motivation will be evaluated in a cross-sectional design including approx. 200 individuals with type 2 diabetes who participate in a self-management intervention provided by the Danish Diabetes Association: "Peer-led motivational groups" between January - October 2015. The validated SDT-questionnaire scales: The Treatment Self-Regulation Questionnaire



(TSRQ) measuring the degree of autonomous motivation and the Perceived Competence for Diabetes Scale (PCDS) measuring perceived competence regarding living with type 2 diabetes are collected in the Danish version of “the DLP Participant Pre-questionnaire”, the FP7 Diabetes and Literacy programme. The HLS-EU-Q16 and the Diabetes Health Literacy scale are collected in the same and will be used as measures of the health literacy level. The data will be analysed using regression models, and the estimates will be adjusted for relevant confounders: age, gender and educational level.

Results

Regression coefficients of the associations between health literacy (both scales) and autonomous motivation and perceived competence regarding living with type 2 diabetes will be presented at the conference.

Perspective

We expect that this study will provide useful information about health literacy and motivation, and their combination as potential active components to be tested in future self-management diabetes interventions.

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2.b iii) Comparative effectiveness of diabetes self-management education programs using different communication channels

Introduction

As living with diabetes requires extensive self-care, self-management education is widely recommended to enhance the effectiveness and reduce the costs of treatment. While many diabetes self-management education (DSME) programs exist, the relative outcomes of using different communication channels (individual, group, IT based, self-help groups) for diabetes education are not well researched. This observational study - undertaken within the FP7 Diabetes Literacy Project - investigated the impact of communication channels on DSME program effectiveness, using an assessment tool allowing to measure indicators for different outcome levels in a two phase evaluation design of selected existing DSME programs in 9 countries.

Methods

Following a literature review of existing studies and schemes a Diabetes Self-Management Outcome Framework and a questionnaire including mostly existing validated instruments for measuring these outcomes of diabetes education has been developed. The instrument was translated into eight languages and used in Austria, Belgium, Denmark, Germany, Ireland, UK and in Israel, Taiwan and US. Data were collected in two phases from January 2015 to June 2015 on a sample of DSME programs in these 9 countries.

Results

Analysis will demonstrate the effects of communication channels on selected outcome indicators which are represented within the underlying Diabetes Self-Management Outcome Framework.

Conclusions

This study is one of the first to investigate comparatively the effectiveness of different channels of existing diabetes self-management programs in different countries with the same instrument and provides novel insights on base of this data. Recommendations for future research are made.

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2.b iv) Health literacy and fear of cancer progression in elderly women newly diagnosed with breast cancer - A longitudinal analysis

Introduction

Health literacy has been linked to mental well-being. However, findings for an association of health literacy with fear are sparse. This study aims to investigate the association of health literacy with fear of cancer progression (FoP) in a sample of elderly women newly diagnosed with breast cancer.

Methods

The analyses are part of a prospective, multicenter cohort-study that took place in Germany between 2013 and 2014. Elderly women (65 years of age and older) newly diagnosed with breast cancer completed validated measures of health literacy and FoP directly after the surgery and 40 weeks later. A multivariate random effects regression approach was applied to estimate the association of health literacy with FoP considering socio-demographic, clinical and psychosocial characteristics of the patients.

Results

About half of the elderly breast cancer patients in our sample was classified as having limited health literacy (inadequate and problematic levels). Multivariate random effects regression analysis revealed that limited health literacy was significantly associated with higher levels of FoP.

Conclusion

Limited health literacy was a risk factor of increased FoP among our sample of elderly breast cancer patients. Health literacy should be considered within psychosocial care since enhancing health literacy could contribute to reduce the patients' fear of cancer progression.

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2.b v) The relationship between health literacy and quality of life in renal dialysis patients

Introduction

Health literacy refers to the personal characteristics and social resources needed for individuals and communities to access, understand, appraise and use information and services to make decisions about health, or decisions that have implications for health. Health literacy includes the capacity to communicate, assert and enact these decisions. For patients with chronic kidney disease health literacy has been associated with higher rates of hospitalisation and emergency department presentations, and decreased dialysis attendance. We aimed to describe the health literacy of people with end-stage kidney disease and the factors associated with it.

Methods

Dialysis patients completed the Kidney Disease Quality of Life (KDQoL), the Depression, Anxiety and Stress Scale (DASS-21), and the Health Literacy Questionnaire (HLQ). The HLQ is 44-item self-report questionnaire that assesses health literacy across nine subscales: 1) Feel understood and supported by healthcare providers, 2) Have sufficient information to manage health, 3) Actively managing health, 4) Social support for health, 5) Appraisal of health information, 6) Ability to actively engage with healthcare providers, 7) Ability to navigate the healthcare system, 8) Ability to find good health information, and 9) Understand health information well enough to know what to do. Reliability has been established for the nine individual subscales of the HLQ, which achieved Cronbach's alphas of between 0.77 and 0.90.

Results

One hundred participants (mean age 68.2±13.7 years, male=57), comprising 76 satellite hemodialysis, 16 peritoneal dialysis and 8 home hemodialysis patients, completed study assessments. Participants receiving dialysis scored higher with respect to health literacy domains "social support for health" and "engagement with healthcare providers", but scored lower in "active management of health" than the non-dialysis comparison group (n=813). Hierarchical cluster analysis revealed 2 clusters within the dialysis sample, representing higher (n=43) and lower (n=57) profiles of health literacy. The higher health literacy cluster reported better quality of life across four of five domains of the KDQoL-36, fewer symptoms of depression and anxiety, and higher serum albumin (mean difference 2.06g/L, p=0.04) than the lower health literacy cluster.

Conclusions

The findings demonstrate the multi-dimension nature of health literacy, and the variability that exists within and across patient clusters. Dialysis patients feel better supported and informed about their health than other health consumers, but are less active in managing it. Higher health literacy is associated with better mental health and quality of life. Identifying health literacy characteristics may help direct specific interventions to improve patient education and support.

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2.c Health Literacy Service and Policy Development

2.c i) Health Literacy and Use of Healthcare Services in Belgium: Results from a National Survey

Introduction

Low health literacy has been linked to poorer health outcomes, greater use of healthcare services and fewer health preventive behaviors. However, most of the existing studies have been conducted in the USA and little is known about the link between health literacy and the use of healthcare services in Europe. Moreover, health care use is mostly measured via self-reports and definitions, dimensions and measurements of health literacy vary across studies. This study investigated whether the actual use of healthcare services, measured in an objective way, differed depending on health literacy level measured by the HLS-EU-Q, developed as a part of the European Health Literacy Survey project (HLS-EU).

Methods

In the framework of a larger study on health, 16.999 members of a Belgian health insurance completed a questionnaire including the 16 item version of the HLS-EU-Q. A total of 9617 participants met the inclusion criteria (59% females, ages 18-88 with mean 55,8) and gave their consent to couple their data with healthcare data from the health insurance. A negative binomial regression model was used to assess the association between health literacy and the use of healthcare services, adjusting for personal and behavioral characteristics.

Results

Health literacy was negatively associated with days of hospitalizations (except for one day surgical clinics), number of home visits by the general practitioner, psychiatric consultations and transport by ambulance. No association was found of health literacy with the number of consultations to the general practitioner and specialist, drug consumption and admissions to emergency hospitals.



Conclusion

The results are overall in line with previous studies, and suggest that low health literacy is associated with greater use of healthcare services in the Belgian population. Thus, improving the health literacy of the population can be an effective strategy to promote adequate use of healthcare services and improve people's health status and outcomes.

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2.c ii) Healthy Ageing in Europe: Prioritizing Interventions to improve Health Literacy

Background

Health literacy (HL) is low for 40-50% of the population in developed nations, and is strongly linked to many undesirable health outcomes. Older adults are particularly at risk. The Irohla project systematically created a large inventory of HL interventions targeting adults age 50+, to support practical production of policy and practice guidelines for promoting health literacy in European populations.

Methods

We comprehensively surveyed international scientific literature, grey literature and other sources (published 2003-) for implemented HL interventions that involved older adults. Studies were screened for eligibility criteria and further selected for aspects important in European public health policy, including priority diseases, risk factors and vulnerable target groups. Interventions were prioritised using a multiple criteria tool to select final interventions that also featured strong evidence of efficacy and a broad range of strategies.

Results

From nearly 7000 written summaries, 1097 met inclusion criteria, of which 233 were chosen for scoring and ranking. Of these, 7 had the highest multi-criteria scores. Eight more articles were selected based on rounded criteria including a high multi-criteria score as well as elements of innovation. Final selections were 18 articles describing 15 programmes.

Conclusions

15 promising intervention projects that feature strong evidence of efficacy among important diseases or risk factors and vulnerable groups, or that had success with elements of innovation were identified. These programmes have multiple positive attributes which could be used as guidance for developing innovative intervention programmes to trial on European older adults. They provide evidence of efficacy in addressing high priority diseases and risk factors.

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2.c iii) Health literacy: varying relations with control over care and number of GP visits

Introduction

In chronic care, patients are expected to exert a certain degree of control over the care for their condition, for instance by fulfilling care tasks in their home environment. However, previous studies imply that not all adults with a chronic condition are able to exert control over their care, possibly due to a lack of knowledge or skills. Health literacy skills are considered relevant in this regard, especially critical health literacy skills. The aim of this study was to examine to what extent functional, interactive and critical health literacy are associated with patients' perceived control over care and with the frequency of their GP visits. We were especially interested whether the three types of health literacy show varying associations with perceived control over care and GP visits.

Methods

Data from the Dutch 'National Panel of people with Chronic illness or Disability' were used (N=2508). Functional, interactive and critical health literacy was assessed by the Functional, Communicative and Critical Health Literacy measure (FCCHL). Perceived control over care was indicated by perceived ability to: organize care, interact with providers and perform self-care. Health literacy as well as perceived control over care were measured based on respectively 4- and 5-point Likert scales. Mean scores (within a range from 1-4 or 1-5) were used as outcome measures in the analyses (higher mean scores indicating higher health literacy/a higher ability to organize care, interact with providers and perform self-care). By multivariate linear regression analyses, associations between health literacy and perceived ability to organize care, interact with providers and perform self-care frequency were studied. By multivariate logistic regression analysis, the associations between health literacy and frequency of GP visits was studied. Functional, interactive and critical health literacy skills were included step-by-step into the analyses. All analyses were adjusted for sex, disease knowledge, cognitive functioning, age, level of education, and health status.

Results

Mean health literacy scores were 3.1 (\pm 0.7) for functional health literacy, 3.0 (\pm 0.7) for interactive health literacy and 2.6 (\pm 0.8) for critical health literacy. Concerning perceived control over care, mean scores were 3.8 (\pm 0.7) for the organization of care, 3.7 (\pm 0.8) for interaction with healthcare providers and 3.9 (\pm 0.7) for self-care. The mean frequency of contact with the GP on a yearly basis was 5 times (\pm 5.3). In regression models including functional, interactive as well as critical health literacy, lower functional and interactive health literacy were significantly associated with a lower perceived ability to



organize care and to perform self-care ($p < .05$). Only lower interactive health literacy was significantly associated with a lower perceived ability to interact with healthcare providers ($p < .05$). Only lower functional health literacy was significantly associated with a higher frequency of GP visits ($p < .05$).

Conclusions

The results imply that some patients' may be less able to exert control over their care because of lower health literacy. Functional, interactive and critical health literacy vary in their relevance for patients' ability to exert control. The results imply that initiatives to strengthen patients' role in healthcare may be improved by attention for patients' health literacy, specifically functional and interactive health literacy.

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2.c iv) Development of an Evidence-Based Multidisciplinary Guideline for Policy and Practice to Increase Health Literacy among Older Adults in Europe: engaging stakeholders is crucial for optimal adoption and use of the guideline.

Introduction

Guidelines are often not fully implemented into practice or policy. It has been recommended to engage end-users in the development of guidelines to promote adoption and use of the guidelines. Therefore, the Intervention Research On Health Literacy (IROHLA) project aimed to produce a health literacy guideline for policy and practice, which meets the needs of the end-users in EU member states and will help them to effectively reduce health literacy problems.

Methods

We engaged stakeholders in all phases of the project: 1) We gathered evidence with a Delphi study, a survey with stakeholders and a literature review. 2) With the results of step 1 we designed key messages for the guideline for policy and practice that were pilot tested during face-to-face conferences and semi-structured telephone interviews. 3) In the development of a usable communication and dissemination strategy for the guideline, we used an online survey with stakeholders, face-to-face conferences and a web-based feedback round on the published draft guideline-portal.

Results

1) 39 health literacy experts from various countries who had previously published about health literacy helped linking research evidence to practical advice for policy and practice. The IROHLA theoretical model and taxonomy were developed, facilitating the communication, development and assessment of health literacy interventions. Twenty promising interventions were selected.

It became clear that many interventions have similar components and working mechanisms and that grouping them will provide a better overview of strategies to reduce health literacy problems. 2) Pilot testing key messages on jointly identified priority topics with the 20 partner organisations in the IROHLA project helped making messages more complete, clear and applicable by end-users. An important comment was that messages should contain a concrete action. The interviews are planned in September 2015. 3) The online survey about relevant questions and contributing factors to successful dissemination and adoption of the guideline, was distributed by umbrella organizations in the IROHLA project to their member organizations and completed by 28 end-users: persons involved in policy advice and from patient- and public organisations, professionals and researchers. They stated that health literacy is an issue in their countries, but policy makers and professionals are mostly unaware of the impact of health literacy on health. A European guideline for health literacy is seen as useful as inspiration, to start a programme and to learn from best practices but would always need local adaptation. The web-portal of the guideline developed in this project contains scientific and practical evidence with a focus on a broad range of health literacy interventions targeting the older adults, professionals and/or their context. Evaluation of the draft portal will be done in September 2015.

Conclusions

Engaging stakeholders in the developmental process was crucial for identification of key issues to be addressed, for finding viable interventions in different cultural contexts and -hopefully- for presentation of the evidence in a user-friendly and sustainable web portal that meets the needs of end-users, will create awareness and support them in effective strategies reducing low health literacy. How the end-users will actually use our guideline will be measured in a follow-up study after launching the portal in November 2015.

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2.c v) Information processing in Health Literacy among the German population with particular regard to chronic disease

Introduction

The health literacy-concept describes the ability to find, understand, appraise, and apply information in health related situations. It is therefore one of the essential requirements for participating as an active and informed user in healthcare, especially in shared/informed decision making. For people with chronic disease, this is particularly important because they have to deal



with health related information while at the same time coping with their disease. Currently, there is a lack of knowledge concerning the areas of information processing in which problems are most prevalent. The aim of this study, therefore, is to analyze and compare different information levels in a representative sample of the German-speaking population with particular regard to chronic disease. **Methods:** A representative survey using computer assisted interviews was conducted among the German-speaking population aged 15 and older (n = 2000). Data concerning subjective health literacy were assessed using the HLS-EU-Q-47 questionnaire. Data analysis included descriptive statistics and the construction of information processing indices for health literacy. **Results:** In the total sample, 44.6% of the study participants showed problematic health literacy and 9.7% inadequate health literacy. Regarding the single phases of information processing: 27.7% of the people with chronic disease have inadequate health literacy in “finding health related information” versus 13.8% of people without chronic disease. The difference is also explicit when considering “understanding health related information” (19.9% vs. 7.9%), “appraise health related information” (26.4% vs. 19%) and “apply health related information (13.3% vs. 4.6%). Both groups show that the most distinct problems in health literacy tend to appear during phases of finding and appraising information. **Conclusions:** An analysis of the information processing in health literacy provides the useful advice for intervention development, namely by showing that people in Germany experience finding and appraising health related information more challenging than understanding and applying it. Interestingly, people with chronic disease – often characterized as being “experts in their disease” – seem to have problems in information processing and they are affected more frequently than participants without a chronic disease. This indicates that people with chronic diseases have particular needs for handling health related information compared to those without a chronic disease.

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2.c vi) Malta Health Literacy Survey 2014 - Moving beyond Findings

Introduction

With the European Health Literacy Project as a reference point, the Office of the Commissioner for Mental Health in partnership with the National Statistics Office, in 2014, commissioned this survey to measure the health literacy level of the Maltese population. This study also enabled the identification of vulnerable groups and shed light on the relationship between health literacy levels and health outcomes, behaviors and service use. Now, following the results of this study, the Office is working on the way forward. **Methodology:** A stratified random sample of persons aged 18 years and over was selected for this survey. In total, information from 1,514 persons was gathered using a standardized questionnaire through the use of Computer Assisted Telephone Interviewing (CATI). The CATI program used, allowed a comprehensive data collection process such that each sampling unit was randomly assigned among interviews

and hence interviewer bias was reduced to a bare minimum. The short version of the European Health Literacy Survey tool, HLS-EU-Q16, was used. Three main areas were assessed for four processing information stages, namely access to health information, understanding information provided, evaluating information and acting upon this information. Each respondent was asked to give his/ her opinion on a 4 point Likert scale. The overall health literacy was determined by the combination of the way respondents answered to statements associated with health care, disease prevention and health promotion. The combination of the sixteen statements yielded the General Health Literacy (GHL) index.

Following the data collection, all information was extracted and analyzed using appropriate statistical software. Specific weights were worked out in order to gross up results to the whole household population. The weighting methodology consisted of post stratification based on gender, age group and district of respondents. National results can be compared with the mean of the 8 countries which conducted this survey 3 years ago. **Results:** The survey has provided us with a general health literacy profile of the Maltese population across socio-demographic characteristics. Health literacy levels were analyzed for the three domains of the health system i.e. health care, disease prevention and health promotion. The most significant findings were that nearly half of the Maltese population have problematic or inadequate levels of health literacy. Moreover, 45.7% have difficulty or do not know where to find information on how to manage very common mental health problems such as stress or depression. The study also enabled us to identify the vulnerable groups within the population who are at risk of limited health literacy. **Conclusions:** This study was just the beginning of local work in the area of health literacy. We strongly believe that further work will influence the direction of future policy and service provision throughout the health system. The results of this survey have provided us with valuable evidence for targeting vulnerable groups in order to improve lifelong health outcomes through personalised approaches and person centred interventions. Following the findings of the Health Literacy Survey, our next efforts will focus on improving mental health literacy on a national level.

Author: Ms Natasha Barbara (Commissioner for Mental Health)

2.d Health Literate Organisations

2.d i) Improving equity and chronic disease outcomes by optimising organisational responsiveness to consumer health literacy needs

Introduction

Addressing the public health impact of chronic disease, particularly among disadvantaged groups, remains a priority for governments. Recent advances in the measurement of health literacy needs may provide a mechanism for achieving more equitable health outcomes. The Ophelia Approach has been developed to utilise advanced health literacy measurement tools to identify community needs and use these insights to develop new health literacy interventions. The Ophelia Approach involves three phases of activity: 1) Needs assessment, within which the health literacy needs of a local community



are studied and data is used to identify objectives for change; 2) Co-creation of interventions, in which local stakeholders work together to identify and develop practical and innovative intervention ideas, and 3) Implementation, evaluation and ongoing improvement, in which interventions are trialled and mechanisms for ongoing refinement are established. This presentation outlines the application of the Ophelia Approach in Victoria, Australia. Here, nine diverse healthcare sites are engaged in systematically applying the approach and taking part in associated evaluation activities.

Methods

Using the 9-dimension Health Literacy Questionnaire (HLQ), health literacy and demographic data were collected from a quota sample of people with chronic disease (n=813) attending nine Australian healthcare organisations. Local data was presented to each of the sites in a series of workshops. Within these workshops, key staff actively participated in the generation of locally relevant and feasible intervention ideas to address the needs identified.

Results

Mean age of consumers was 72.1 ±14.3yr, 54% had 3 or more health conditions, and 48% had not completed secondary education. Analysis revealed a wide range of health literacy profiles unique to each site. Workshops with clinicians and managers generated multiple intervention ideas in response to identified health-literacy strengths and weaknesses at consumer, practitioner and organisational levels. Interventions are tailored to the socio-demographic and health literacy needs of each service's consumers and include designing navigational resources; developing organisational policies; and training clinicians to support consumers with low health literacy. A key focus is on embedding interventions within existing service activities and processes so that they become seen as part of 'usual practice'. Testing of interventions is underway and will be completed in June 2015.

Conclusion

Interventions based on a comprehensive assessment of health literacy needs, and designed using local knowledge of practitioners are more likely to be equitable and sustainable because they specifically target the needs of the local community. The grounded approach described here has application in a broad range of settings and countries, including neighbourhoods, workplaces and hospitals. It is currently being applied in Australia, Africa and Asia. Each initiative using the Ophelia Approach generates ideas for new interventions or practice improvements. These contribute to the further development and refinement of the Health Literacy Response Framework (HL-RF). Alongside the intervention ideas that exist within this framework, are tools, guidelines and resources to assist operationalization. These will be collated and shared globally between participating organisations via the Ophelia.net.au website.

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2.d ii) Increasing capability for health literacy sensitive practice

15

Introduction

'Making it Easy: A Health Literacy Action Plan for Scotland' was developed with the view of making Scotland a health literate society that enables all of us to have sufficient confidence, knowledge, understanding and skills to live well, on our own terms, and with any health condition we may have.

As part of the actions contained within the plan a number of developments have been identified to assist in embedding and spreading health literacy knowledge and skills across NHSScotland and the wider community.

This programme focuses on two areas of the action plan to build capability for health literacy sensitive practice.

Methods

In order to achieve the embedding and spread of knowledge this work specifically involves:

1. Engagement and development of the Health Literacy Place as the 'go to place' for knowledge, learning and collaboration relating to health literacy and to underpin delivery of the Health Literacy Action Plan (www.healthliteracyplace.org.uk)
2. Building workforce capability in health literacy across various levels of staff (this will focus on medicine management, informed consent and long term conditions).

The work being taken forward will build on existing learning and evidence identified through a scoping study carried out in 2013 and an evidence overview commissioned in 2013-14 which both informed the development of 'Making it Easy'.

Results

The results of the scoping and evidence review have been used to develop the national action plan and identify specific activities as outlined above. The project lead will progress activity over the next twelve months with a focus on building and developing an online resource and network, identifying and recruiting health literacy champions from a range of disciplines and building capacity through learning opportunities.

Conclusion

This work will contribute to making Scotland more health literate with a view to achieving better health outcomes and reduced health inequalities. The findings of the programme will be evaluated and a report produced to share learning and inform future developments. This presentation will promote the activity already taking place based on findings of an evidence review and scoping exercise and offer ideas for building capability for health literacy sensitive practice.

Authors: Miss Lindsey Murphy (NHS Education for Scotland), Dr Ann Wales (NHS Education for Scotland)



2.d iii) Quicksan Health Literacy in hospitals. Implementation of a practice based toolbox in Dutch hospitals.

Introduction

In the Netherlands more than 25% of the adult population has (very) poor health literacy skills (HLS-EU, 2010). These people are not able to find relevant information, to understand it, and to apply it for health-related decisions. By improving people's access to health information and the health care system and their capacity to use it effectively, hospitals can contribute to the empowerment of people with low health literacy skills, resulting in better health outcomes and lower costs.

With the Toolbox Quick Scan Health Literacy, hospitals are able to tailor their communication with patients who are less health literate. The Toolbox includes screening tools on written information, digital information, oral information, and access to/ navigation in the hospital

By using the Toolbox, hospitals become aware of health literacy and are able to formulate plans for improvement. The Toolbox has been developed by CBO in close cooperation with 6 Dutch hospitals and people with poor literacy skills during 2011-2013. The final version was completed in 2014. In 2015 the Quicksan was implemented in 3 hospitals in the Netherlands as part of the IROHLA implementation evaluation research of three HL environmental assessment tools. This presentation focus is the implementation of the Quicksan.

Methods

The toolbox contains 4 tools for: written information, oral information, digital information and a navigation tool (walking interview). Each tool consists of a self-evaluation checklist for hospital professionals and tools which can be used with the target group itself. CBO developed the tools based on (inter) national literature and practice based experience. The implementation consisted of 5 phases: (1) Orientate: what is the starting situation and check whether there is support for working on health literacy on various levels in the hospital (2) Organise: development of an action plan (3) Execute: working with the tools in the hospitals and make a plan for improvement (4) Evaluate: a qualitative and process evaluation done by UMCG for IROHLA the project; and (5) Embed: hospitals to take first steps to embed the tools in general patient communication policies and activities, quality assessments, quality care policy.

Results

There is a lot of support for working on health literacy in the participating hospitals, both at management level as well as on the level of individual employees. However recruitment and preparation is a time consuming process which is especially evident with the tools directed at collaboration with people with low literacy skills. Nevertheless the opinions expressed by this target group are perceived as inspiring and supporting. Professionals mentioned for example that the website test and the leaflet-test helps to critically look at patient communication in general. Further results of this implementation process will be available in October 2015.

Conclusion

In other pilot projects with the Quicksan, working with the Toolbox increased the awareness of the hospitals on the subject of health literacy. In those cases the tools were implemented successfully at department level and seemed usable for both professionals as the target group based on the process and qualitative evaluation. The process evaluation will be used to improve the implementation process of Quicksan in hospitals and in other care settings in the future.

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2.d iv) Health Literate Organizations - An Appropriate Strategy for German Hospitals and Rehabilitation Clinics?

Introduction

Health literacy is defined as peoples' skills to read, comprehend and use health information in order to actively improve their health and living conditions. All health care institutions might play an important role to promote their patients' health literacy. In this respect, the Institute of Medicine (IOM) has published a concept in 2012, which is supposed to help health care organizations to become "health literacy-friendly". The concept consists of 10 attributes, e.g. "preparing of the workforce to be health literate and monitoring the progress" or "the providing of easy access to health information and services and navigation assistance". The aim of our research project is to analyze, which elements of the American concept of "health literate organizations" are used explicitly and implicitly in German hospitals and rehabilitation clinics. In addition, we want to know whether the clinics accept the concept and how the concept could be extended or adapted to transfer it into the German health care system.

Methods

Qualitative face to face expert interviews with managers and supervisory staff (i.e. medical director, nursing director, commercial director) as well as operating staff (e.g. physician, nurse, social service) of 6 German clinics in Lower Saxony (3 hospitals and 3 rehabilitation clinics). Around 42 interviews are planned. The interviews will be recorded and transcribed. The analysis will be conducted by the qualitative content analysis according to Mayring.

Results

The collection of data is currently ongoing, 18 interviews were held with interviewees from hospitals (N=7) and rehabilitation clinics (N=11). The first result based on these interviews is, that the theoretical concept of health literacy is barely known. Only after a joint definition of the term, the interviewees underlined that "of course it isn't an unfamiliar issue" and "again and again it plays an important role". Especially the staff of rehabilitation clinics emphasized that some aspects of the IOM-concept are already applied to the everyday business of their clinic. "We cannot discharge the patients without the support of their health literacy, that's the mission of a rehabilitation process." All interviewees agreed that there is a lack of well-prepared concepts to improve



the organizational health literacy. Moreover, they reported problems concerning the possible implementation of the concept: lack of resources and capacities (time and personnel). Another critical point mentioned is due to the patients, especially older patients are considered not to be interested in improving their health literacy.

Conclusions

Clinics could play an important role for a further development of patients' health literacy. The concept of "health literate organizations" is hardly known in Germany, but some elements are implicitly implemented. The information about the current status, the strengths and weaknesses regarding health literacy-friendly activities in German clinics from the professionals' point of view can help to further develop the concept of the IOM and enhance it with additional user-friendly components. The development of further practical tools or the embedding in existing programs for Quality Management in clinics could support the process.

Authors: Ms Inga Muench (lecturer), Mrs Ulrike Junius-Walker, Mrs Marie-Luise Dierks

2.d v) Health literate health care organizations - the Vienna Concept

Introduction

Health literacy (HL), defined as the ability to access, understand, appraise and apply health information (Sorensen et al. 2012), is a relevant and malleable determinant, mediator or moderator of health. There is good evidence that health literacy is related to the use and outcomes of healthcare services, including costs. Recent interpretations consider HL as the relation between personal skills and situational demands of health systems. HL can thus be improved by health education for people, but also by adapting information and communication processes of systems to the needs and capabilities of users. A concept addressing systems change, the "health literate organization" (HLO), was developed in the USA (Brach et al. 2012) and also extended to "health literate settings" (Kickbusch et al. 2013). However, because of its narrow understanding of HL, its limited reference to other healthcare reform movements, especially quality and health promotion, and its relation to the specific US context its sustainable implementation and impact is still limited in Europe.

Purpose/Methods

Against this background, the aim of developing a new Vienna HLO (VHLO) concept was to review and expand HLO in light of an advanced HL understanding and of diverse healthcare reform movements, especially by using experiences and procedures from Health Promoting Hospitals, and to make HLO better connective to quality management by standards and indicators for self-assessment. The VHLO concept was developed first by systematically considering HL needs of major healthcare stakeholders and by grouping these in domains in a deductive process: second, by an informed narrative literature review to identify existing measurement tools for HLO. These were screened for indicators fitting the VHLO concept, and new indicators were developed where

necessary. The resulting draft self-assessment tool was improved by feedback from an expert panel with representatives of health policy, health insurance, healthcare professions, and patient representatives, and finally the tool was pilot-tested in 9 Austrian healthcare organizations for its feasibility.

Results

The VHLO concept is a 12-field matrix, defined by 3 stakeholder groups - patients, staff, community - and 4 domains for HL intervention: HL for accessing, living and working in healthcare; HL for coproducing healthcare; HL for improving self-management of disease; and HL for improving lifestyles. In addition, it has 3 fields on implementation, monitoring and dissemination. For operationalization, VHLO was condensed into 9 standards, 22 sub standards and 160 indicators for self-assessment of hospitals and other health services, as a first step of self-assessment for developing more health literate organizations. The authors will provide the tool and results from pilot-testing it in Austrian hospitals.

Conclusions

VHLO received appraisal from an Austrian expert panel, and first experiences from the Austrian pilot test in hospitals indicate its feasibility and usefulness in healthcare practice to enhance HL. Its usability to guide self-assessment, identify areas for improvement, and support actual change, is yet to be demonstrated beyond the Austrian context by research and practice on an European scale.

Authors: Prof Juergen M. Pelikan (LBIHPR), Dr Christina Dietscher (LBIHPR)

2.d vi) Implementation evaluation of 3 country specific health literacy environmental assessment tools in healthcare settings across 3 European countries (Ireland, Finland and the Netherlands)

Introduction

Health Literacy can be constructed as the mismatch between people's health literacy skills and abilities and the health literacy demands placed upon them which compromises peoples' health. Much research has focused on measuring the literacy skills of patients; however little attention has been given to the literacy demands which health care organizations place on patients. Within today's complex and challenging health care environments and health systems, the demands placed on people, such as higher expectations for self-management and participation in decision making, are increasing.

Health literacy environmental assessment tools involve the use of multiple instruments to comprehensively evaluate the health literacy environment: including written, online and oral communication and signage in healthcare settings. They aim to identify high literacy demands that particularly disadvantage those with low health literacy. Such tools have been developed and used extensively in North America. Recently, European tools have been developed in some countries. However, most of the research to date on these has focused on development of the tools themselves and outcomes of pilot studies. In order to successfully adapt and implement these tools across



European healthcare settings further evaluation is required. As part of the IROHLA European research project, 3 country specific tools were identified, implemented and the implementation evaluated, in The Netherlands, Ireland and Finland.

Methods

The evaluation design for this study draws on a process evaluation planning framework by Saunders et al. (2005: 2013). This framework incorporates the concepts of: fidelity, dose, reach, recruitment and context and argues that complex interventions such as these tools can be conceptualised by functionality rather than compositionality thus facilitating comparisons among the country specific tools. This framework was complemented by a framework devised by Fleuren et al (2004: 2014), which identifies determinants that can facilitate or hinder the implementation of innovations in healthcare settings: in this instance the implementation of the tools.

Mixed methods were used: the sample comprised key stakeholders in the health care setting, patients and healthcare professionals, recruited through purposive and snowball sampling. Data collection included: the environmental assessment tools, questionnaires, records of meetings, interviews and a log book to record the implementation process. Analysis will be undertaken using thematic analysis and descriptive statistics.

Results

Initial results indicate that the assessment tools were generally implemented as planned. Gaining access to complex healthcare settings such as hospitals initially requires substantial time, resources and planning. Identification and active engagement of relevant stakeholders at all levels in the healthcare setting to support the implementation process is essential. Finally, the development of an action plan after the assessments is essential and needs to be developed and lead by the healthcare facility in order to ensure action and sustainability. More detailed results will be available in September 2015.

Conclusion

Through implementation evaluation of these tools in European health care settings we can advance knowledge of their optimal application and formulate criteria and recommendations for further development, particularly with regard to the needs of older people.

Authors: Mrs Priscilla Doyle (National University of Ireland, Galway (NUIG)), Dr Jane Sixsmith (National University of Ireland, Galway (NUIG)), Ms Marise Kaper (University Medical Center Groningen (UMCG)), Dr Andrea de Winter (University Medical Center Groningen (UMCG)), Mrs Janine Vervoordeldonk (Dutch Institute for Healthcare Improvement (CBO)), Mrs Johanna Reiman (Baltic Region Healthy Cities Association), Ms Karolina Mackiewicz (Baltic Region Healthy Cities Association)

2.e Health Literacy and Innovations in Communication

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2.e i) How Health Literacy will be defined in future. ePatients, eHealth services and eHealth Literacy - the forgotten corner stones of contemporary health literacy research

In today's societies the internet is an important source for seeking health related information. eHealth is a common term and widely used when talking about health related services and information connected to or delivered through technology. Health apps are widely used for different purposes and the term "self quantification" is a buzzword everyone is talking about, related to health, wellness and lifestyle.

Technologies such as smart phones and tablets are widespread and can be used everywhere at any time, thanks to mobile internet. On the other hand we are facing ageing societies, an increase in chronic diseases and a huge number of diseases due to an unhealthy lifestyle, causing a huge amount of costs in the health care sector. In the future medicine is expected to become more personalized and information technology is seen as a way to handle the challenges.

Studies have shown that eHealth is able to improve the health-related knowledge and behaviour of individuals and enables patients to be an empowered partner in medical decision processes.

However, some obstacles should be mentioned:

eHealth services can only develop their full potential if individuals have the competences to use them

► eHealth Literacy

The service itself is useless if it doesn't fit into the daily life of the user

► Personalization

The individuals' social background determines the use and the possible benefit of eHealth services

► Social inequalities

After a short introduction to the Lily model and the eHealth Literacy Scale the outcomes of the ePatient survey, which has not been scientifically evaluated before, will be used to analyse the user habits of patients, their families and other groups depending on their diseases, risk factors and care pathways. It analyses the behaviour of individuals seeking online for health information in the German speaking area. The survey asks the users about their usage habits and the effects of the web usage on their health behaviour, diseases and therapy. Studies have shown that the usage of internet for seeking health information has a significant impact on knowledge, attitude and health behaviour and internet based health and care services can help to optimize medical therapy.

According to the findings some hypothesis can be formulated regarding future research on eHealth Literacy, acceptance of eHealth services and patient empowerment.



Due to the technological development and the increasing importance of modern information technology eHealth literacy research is a key part in health literacy research. In theory eHealth services can be the solution to many challenges in health care. Moreover, personalized eHealth services can provide better access to medical information and resources for patients and their families. eHealth services are expected to help overcome unequal access to health care and thus help decrease social inequalities in health care. Nevertheless, we face the risk that individuals will not use them in the most efficient way simply because they are not able to. On the other hand eHealth Literacy also effects the way health professionals will use eHealth services in their daily working life. Thus, it is essential to understand what skills are needed, how eHealth services are used and how they could be personalized in the most suitable way. There is a huge need of research analysing these questions in order to get the greatest possible benefit for all individuals and health care systems out of it.

Authors: Ms Anna-Lena Pohl (Flensburg University of Applied Sciences), Prof Roland Trill (Flensburg University of Applied Sciences)

2.e ii) Perceived benefit of a personal controlled health record among chronically ill patients - associations with health literacy?

Background

Personally Controlled Health Record (PCHR) allows the patient to control what health information goes into it, and who is allowed to access it. A PCHR might be a powerful tool to enhance patient autonomy. The perceived benefit from the patient's perspective will depend on skills to understand, gain access to and use of the PCHR. Last year we presented results of a pilot study on the willingness to share personal health information. Now we present results of a second survey among patients treated in GP practices with regard to the perceived benefits of a PCHR and associations with health literacy.

Methods

In 12/2014 - 3/2015 we recruited 500 patients with known chronic diseases from 10 general practices to participate in a written survey. The study population comprised adults (age ≥ 18 years) with either bronchial asthma, diabetes mellitus, coronary artery disease or cancer. The questionnaire contained items on (1) attitudes towards a PCHR, (2) health literacy domains (HLS-EU-Q16, eHEALS, NVS) and (3) socio-demographic variables. We performed descriptive and multivariate analyses.

Results

348 patients returned a valid questionnaire (response rate: 69,6%). 44,6% are female (average age 63,4 years). Respondents judge their general health status as poor in 4,2% (rather poor 28,2%, good 54,2%, very good/excellent 13,5%). 4,0% vs. 40,7% of the survey participants show an excellent or sufficient general health literacy, whereas health literacy of 37,6% vs. 17,7% is problematic or even inadequate (EU-HLS-Q16). The NVS shows 46,4% have limited, 17,6% possibly limited, and 36,0% adequate basic health literacy skills. There is a positive attitude towards a PCHR (75,2% would like to have one) and 63,9% of

the respondents perceive being better informed themselves as an important benefit. Tested multivariate (logistic regression) persons with limited literacy vs. adequate health literacy (NVS) have a higher likelihood to perceive personal benefits of the PCHR (OR=2,1; 95%-CI 1,2 - 3,9), AUC=0,67.

Conclusions

The general health literacy in patients treated for chronic conditions in GP offices is significant lower compared to that in the European Health Literacy Survey. Basic, but not general health literacy is associated with the perceived benefit of a PCHR. Unexpectedly lower basic health literacy increases the odds to perceive a personal benefit.

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2.e iii) Liveonline training to promote health literacy, physical activity and eating habits

Introduction

Healthy eating and regular physical activity are two key components for healthy ageing. Many chronic diseases have their origins in many years of unhealthy eating and insufficient physical activity. Significant improvements of health literacy are crucial for a sustainable behavior change. An innovative tool for training health literacy are audio-synchronous moderated groups (liveonline). The participants are connected visually and audibly via headset and optionally webcam. A presentation board allows slides to be shown, written questions and flip-charts for discussion rounds to be integrated. This study examines whether and to what extent a liveonline intervention enables elderly people to improve their health literacy including to define personal health goals (to enhance physical activity, to improve eating habits), to check and optimize these intentions and to apply volitional competencies like behavior planning to adopt and maintain their behavior successfully.

Methods

This study is a non-randomized, controlled clinical trial with a pre-post test 1 week before, after and 6 weeks after the intervention. The liveonline intervention is carried out within the IROHLA* project. The participants, aged 50+, were recruited by regional health insurance companies (AOK). The intervention with the objective to improve both physical activity and eating habits in older adults was conducted as a moderated liveonline training course with a maximum of 12 participants. The total of 4 courses consisted of 4 weekly sessions, each with 90 minutes and refresh-sessions after the course for a sustainable behavior change. The courses were moderated by qualified psychologists.

Results

First data are available for 23 participants (mean age = 58 yrs, 83% female). 78% of the participants were able to improve their health in relevant areas. Attending the course helped 83% to maintain better health habits. Overall liveonline as a group course appeared easy to learn and with a high usability.



Conclusions

The first results in terms of usability and benefits of liveonline training course are promising. Web-based training courses with a high degree of interactivity and didactics have a high potential to improve health literacy independent of location and should be included in standard healthcare.

IROHLA (Intervention Research On Health Literacy among Ageing population: irohla.eu) is coordinated by the University Medical Center Groningen and has received funding from the European Union's Seventh Framework Programme under grant agreement n°305831

Authors: Dr Juergen Theissing (liveonline coaching), Ms Juliane Paech (Jacobs University Bremen), Prof Sonia Lippke (Jacobs University Bremen)

2.e iv) Using a photo novel to support doctor-patient communication: a health literacy intervention including the patient perspective in development and evaluation.

Introduction

Older adults are frequently affected by the negative consequences of limited health literacy. Doctor-patient communication is one domain in which appropriate levels of interactive health literacy contribute to increased participation and communication of older adults during primary care consultations with their GP. Our aim was therefore to develop a health literacy intervention tool to support and empower patients during their primary care consultations. Based on a systematic review on interventions aiming to increase comprehensibility of health related documents for older adults, we choose to apply a narrative format by developing a photo novel tool. Photo novels are small booklets that tell a dramatic story by means of photographs and short and easily readable captions.

Methods

Based on focus groups discussions and role play exercises with older adults, a photo novel intervention tool with seven social scripts was developed. The photo novel tool aimed 1) to increase older adults' awareness of their needs and barriers in conversations with their GP; 2) to improve older adults' access to information by enabling them to ask different and more questions to their GP; and 3) to increase older adults' problem solving abilities during conversations with their GP in order to ensure better self-management of health issues. The photo novel tool is developed in three different versions and in five different languages (a paper version, a digital movie clip version, and a digital interactive version) and in five different languages. The tool is evaluated in several studies: we performed randomized controlled trials in the Netherlands and Germany on the paper version, the digital movie clip version and the digital interactive version. Next, we performed focus group interviews in the Netherlands and in Italy on both versions of the photo novel tool.

Results & Conclusions

We will report on the preliminary findings of the RCTs, and on the findings of the focus group interviews at the time of the European Health Literacy Conference 2015. We aim to show the photo novel intervention tool increases patients' awareness, communicative self-efficacy and intentions with regard to conversations with their GP.

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2.e v) Fotonovelas as a Tool for Health Communication: Effects and Explanations

Introduction

Persuasive messages aimed at changing recipients' health behaviour are often perceived as a threat to their individual freedom, and as a result may be met with high levels of scepticism or even with immediate rejection. The Entertainment Overcoming Resistance Model (EORM) intends to explain how persuasive messages presented in a narrative may provide a solution. Narratives that are gaining popularity in health communication are fotonovelas: small booklets that tell a dramatic story by means of photographs and short and easily readable captions. Results from the few earlier studies into their effects seem promising, especially where low-literate target groups are concerned. So far, however, hardly any attention has been paid to a possible explanation for their success.

Methods

Three new studies were performed: one in the Netherlands into the effects of a Dutch version of Sweet Temptations, a fotonovela focusing on diabetes (N = 212, partly low-literates), one in South Africa (N = 84) and the Netherlands into the effects of An ounce of prevention, focusing on HPV prevention (N = 84) and one in South Africa into the effects of Rosa out of control, focusing on obesity (N = 150). Experimental conditions were compared to control conditions, and relationships between variables were tested against predictions from the EORM.

Results & Conclusions

In the first study the fotonovela outperformed the control conditions in knowledge scores: in the second study it was most successful in influencing attitudes and intentions. In both studies the expectations from the EORM were only partly confirmed. Results from the third study, comparing a paper version of the fotonovela with a version presented on screen will be available at the time of the European Health Literacy Conference 2015.

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2.e vi) Facilitating health literacy and behavior change by a computer-tailored intervention implemented into the medical rehabilitation treatment

Introduction

Physical activity is essential for healthy ageing but many people do not know this or fail to translate their intention into action. Health literacy can be an important resource to overcome barriers to physical activity by enabling self-regulatory strategies. eHealth applications can facilitate health behavior change in addition to a treatment such as a medical rehabilitation program after a health incident. It was tested whether a parsimonious computerized health promotion program implemented into the medical rehabilitation treatment was effective in terms of lifestyle changes.

Methods

In a randomized controlled trial, rehabilitation patients were recruited in 1 cardiac clinic and 2 orthopedic clinics. Overall, N=1,177 individuals were assigned to: (1) Intervention Group (IG) that provided different psychological treatments to subgroups, (2) an Active Control Group (ACG) with a one-size fits all intervention, both in the mode of a computerized treatment, or a No-Treatment Control Group (NTCG). Baseline assessments on behavior and health literacy were repeated after four weeks.

Results

The IG outperformed the ACG and the NTCG at the 12- and 18-month follow-up for lifestyle changes. If tested whether is this was true for all patients it revealed that those patients not being sufficiently active prior to the rehabilitation treatment significantly benefitted from the IG ($\text{Chi}^2_{12\text{-mo}}=6.02$; $p<.05$; $\text{Chi}^2_{18\text{-mo}}=6.21$; $p<.05$). However, this was not the case in previously active patients. If all patients were evaluated together, a medium effect size $d=0.58$ resulted in favor of the IG in comparison to the NTCG while controlling for baseline behavior (OR=4.07*), patient type (OR=0.58*) and gender and age ($p>.20$).

Conclusions

Matching an intervention to the health literacy of patients can make a health promotion program increasingly effective. Patients' motivation, plans, and the actual lifestyle can be supported by a stage-matched intervention that focuses on both physical activity and its predictors. In rehabilitation settings, there is much potential to implement parsimonious computerized health promotion programs and to facilitate health literacy.

Keywords—eHealth, mHealth, healthy ageing, health literacy

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2.f Measuring Health Literacy during the Life Course

2.f i) Qualitative testing of the European Health Literacy Scale Questionnaire (HLS-EU-Q47) in adolescents for the project "Measurement of Health Literacy Among Adolescents")

Introduction

The Robert Koch Institute implements the project "Measurement of Health Literacy Among Adolescents" (MOHLAA) as part of the consortium "Health Literacy in Childhood and Adolescence", funded by the Federal Ministry of Education and Research of Germany. Based on the German version of the European Health Literacy Scale Questionnaire (HLS -EU-Q47) the MOHLAA project aims to develop an assessment tool for HL in adolescence. The HLS-EU-Q47 contains four dimensions (accessing, understanding, appraising and applying health-related information) related to the three domains: health care, disease prevention and health promotion.

In this stage of the study, it will be analysed whether the instrument is applicable for adolescents aged 14 - 17 in Germany. Furthermore, it will be assessed to what extent adolescents' experiences are covered by the domains and items of the original instrument. In this early stage, some items might be adapted, refined, and removed.

Methods

The HLS-EU-Q47 German version will be examined by cognitive interviewing (CI). The principle aim of the CI is to determine the applicability of the questionnaire in an adolescent population. A focus will lie on the understanding of questions and specific terms, as well as the goodness of fit of answering categories. Think-aloud and verbal probing techniques will be applied during the cognitive interviewing process. By means of CI, following aspects will be investigated:

- ▶ Wording of items: level of abstraction of the term "housing conditions"
- ▶ Comprehension of the items among different age groups: e.g. meaning of German items after translation from English (possible mistranslation errors: adaptations in linguistic style)
- ▶ Suitability of the items: do the items cover the experiences of adolescents regarding health care system, primary prevention, and health promotion?
- ▶ Overall perception of the questionnaire: length, structure, and response categories

A sample of about n=20 adolescents will be interviewed in Berlin, representing male/female, different age groups and educational background. Cognitive interviewing will be conducted in November 2015, followed by the evaluation of the gathered interview data. Trained interviewers will examine the abovementioned issues using an interview guide. Thereafter we will conduct two focus groups (FG) with adolescents (2x7 persons) in order to evaluate, which domains of health literacy are most important for this target group.



Results

The findings will provide further insights into the understanding of the German version of HLS-EU-Q47 by adolescents. Furthermore, we will identify the scope of applicability of the tool for different age groups. The relevance of the three domains of the questionnaire for adolescents will be evaluated. Adolescent-specific issues will be identified and contribute to a better understanding of HL during adolescence.

Conclusions

The results will ultimately lead to a rephrasing of items during the development process of the new questionnaire in the MOHLAA project. Additionally, new items will be developed to capture adolescent-specific issues. The new MOHLAA questionnaire draft will be further tested in 2016.

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2.f ii) Assessing Health Literacy in Austrian Adolescents by the HLS-EU-Q47: Findings and Conclusions for Future Research

Introduction

Health literacy (HL) is becoming more and more relevant in the European context of health care, health promotion and public health. The European Health Literacy Survey (HLS-EU) offered a newly developed instrument (HLS-Q47) for measuring and comparing HL in general populations and collected data for 8 European member states, one of these Austria. The HLS-EU-Q is based on a conceptual and generic model and definition of comprehensive HL which integrates existing models and definitions. (Sørensen et al. 2012) The Austrian Health Literacy Youth Study is a follow up project, which validates the HLS-EU-Q47 as well as a Rasch model based short form of the instrument (HLS-EU-Q16) for adolescents in Austria and allowed for comparison of HL of adolescents and the general population in Austria.

Methods

For the Austrian Health Literacy Youth Study a quota sample (according to gender, federal state and municipality size) of about 500 15 years old adolescents in Austria was selected. Interviews were conducted via PAPI (Paper Assisted Personal Interview) methods. Comprehensive HL was measured with a slightly adapted HLS-EU-Q47 questionnaire and functional HL with the Newest Vital Sign (NVS). As far as possible the same indicators for determinants and consequences of HL included in the HLS-EU study were also measured in the adolescent study.

Results

The study results show that the HLS-EU-Q47 is reliable and valid also for adolescents. Furthermore, the short form of the HLS-EU-Q47 instrument, the HLS-EU-Q16 instrument, is also a valid HL measure for adolescents.

Overall, adolescents have compared to adults a similar response pattern, except

for some single items where there are noticeable difference between the adults and the adolescents. For example adolescents found it on average more difficult to find information on treatment of illness that concerns them, than adults. On the other side adolescents find it easier to decide on how to protect them from illness based on advice from family and friends. Overall adolescents find especially the HL tasks in the health promotion domain as easier than the adults.

The effects of demographic and socio-economic determinants on HL - as far as they could be compared- were weaker for the adolescence than for the adults. This also applies to the associations between HL and selected consequences (e.g. indicators for health behaviors and health risks, self-perceived health status).

Conclusions

The HLS-EU-Q47 and HLS-EU-Q16 instruments are reliable and valid also for adolescents and therefore can be used in youth specific studies like HBSC and allow for comparisons with HL of adults. Nevertheless it would be advisable to develop an additional adolescent specific sub-index of the HLS-EU-Q with health related tasks and decisions especially relevant for this age group following the same item format as the HLS-EU-Q but based among other on qualitative interviews and focus-groups with adolescents. As HL measured by the HLS-EU instruments does not differ dramatically from HL of adults besides specific (e.g. school related) measures also general measures could be used to improve the HL of adolescents.

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2.f iii) Advancing Health Literacy Measurement in Old and Very Old Age

Introduction

Health literacy is described as a distinctive domain of competence across the life-span, gaining particular prominence in light of age-associated health restrictions. Despite this, no specific measurements have been proposed for old age. This study uses a mixed-methods design to focus health literacy measurement in old and very old age. The main aim of this study is to augment the existing HLS-EU-Q-S scale (16 items) by specific items (age-specific addendum) regarding older and very old age and assure both validity and reliability for use in this age segment. Thus, the study contributes to a population-specific measurement of health literacy.

Methods

The study builds upon a widely accepted conceptual framework and measurement approach in the field (i.e., HLS-EU-Q-S). In a first step, as a part of the research project 'On the Meaning of Ageing in Place in the Neighbourhood for Healthy Ageing' (German abbreviation: BEWOHNT), the HLS-EU-Q-S was administered in a sample of old and very old persons (N=463, 70 to 89 years). In accordance with previous reports on psychometric characteristics of the scale, item and person characteristics were estimated based on an unidimensional



Rasch model. Dimensionality and Rasch conformity of test items were evaluated using confirmatory factor analysis (CFA) and IRT item fit statistics. The validity of the HLS-EU-Q-S for distinguishing risk groups was evaluated by comparing estimated health literacy scores across groups of older adults with different socio-economic (i.e. income, education) and functional status. The second step included the addition of newly developed items to the HLS-EU-Q-S scale (16 items) to improve age-specificity of the measurement. Towards this goal, data were drawn from qualitative in-depths interviews with older persons (73 to 92 years). To research age-specific aspects of health literacy a qualitative biographical-narrative approach was applied using the HLS-EU definition and conceptual framework of health literacy as a heuristic technique. In a third step we evaluated the potential of 19 additional items to enhance valid and reliable measurement of health literacy in a second sample of older adults (N=107, 49 to 91 years). An iterative process of item selection based on the potential of additional items to discriminate levels of IRT-based competence estimates was followed to balance precision of measurement against test economy.

Results

Psychometric examination of the HLS-EU-Q-S in a first, substantial sample of old and very old adults (N=463, 70 to 89 years old) confirmed assumptions about scale dimensionality, but didn't show sufficient reliability (rWLE 0.64). Psychometric evaluations in the second sample of old and very old individuals showed that with the inclusion of eight newly developed items, the well-introduced HLS-EU-Q-S is a psychometrically sound (rWLE 0.80) and valid measure of health literacy for use in old and very old age.

Conclusions

Adaptations to widely used measures of health literacy are warranted when measuring health literacy in old and very old age. This study exemplifies a mixed methods approach that combines the perspective of older adults and modern psychometric approaches to develop an adequate measure of health literacy for the old and very old.

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2.f.iv) Health Literacy in Childhood and Adolescence (HLCA): "Methods of Measuring Health Literacy of Children (MoMChild)"

Introduction

Health literacy (HL) has gained renewed attention in health promotion and education research as well as in international policy making. Even if there is a slightly observable movement in child/adolescent HL research, the focus still

remains on adults when developing models, measures, tools or interventions. The "Methods of Measuring Health Literacy of Children (MoMChild)" project is part of the recently started "Health Literacy in Childhood and Adolescence (HLCA)" consortium, which is a partnership of 5 German universities that aims at conducting evidence-based child/adolescent HL research for 3 years in 10 subprojects. The MoMChild's main objective is to develop a valid questionnaire to measure HL in primary school children (ages 9-10). The tool will be based on an underpinning HL model that specifically addresses the target population. In order to assess the relevance of social environments for healthy child development and growth, the project also aims at framing class-related milieu structures to outline dispositional HL patterns.

Methods

Using mixed-methods, the tool development follows 7 steps, including multi-level perspectives on HL, understanding of real-life contexts, and socio-cultural influences. The concept clarification and survey development (1) is currently in progress, which will be followed by (2) a qualitative pilot study with cognitive interviews (n=25), (3) scale and variables modification, (4) a quantitative field test in (n=40) schools and (n=1000) pupils, (5) analysis for variety and variance explanation, (6) milieu typology development based on a factor and latent-class-analysis, and finally (7) the completion of the tool. HLCA is aiming to use the final tool within a second project stage (2018-2021) in a nationwide representative school survey. A systematic literature review is currently underway that aims at identifying existing measurements of child/adolescent/adult HL, and to create a robust knowledge base of the HL concept. This work is carried out by 3 researchers searching for articles from 1970-2015. While a first screening of 9 online databases (PubMed, Web of Science, PsycInfo, SSRN, Emerald, ERIC, Science Direct, CINAHL, BioMed Central) has been done already, a second run is planned for July 2015 to confirm and renew the results.

Results

The first wave of the review led to preliminary results. The investigators identified (n=66) articles reporting on original tools, (n=7) systematic reviews, (n=16) recommendation papers, and (n=21) with taxonomic information so far. A first in-depth screening of the results indicates the existence of only (n=3) straight HL tools and (n=3) models for the age group MoMChild is aiming at. All tools (n=3) matching the age criteria are grounded on the found models, which are either based on school health education standards, or on the Nutbeam typology and attributes related to his outcome model (knowledge, attitudes, communication and behaviour). The evaluation of the review is still in progress.

Conclusions

Preliminary screening of the literature highlights the current gap, inconsistencies, and substantial limitations in the measurement of HL in a child population, especially in 9 and 10 year old students. This implies the need for a significant scope for the development and evaluation of psychometrically valid measures related to a broad HL concept and relevant attributes. The ongoing data analysis needs to confirm the first results.



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2.f.v) Health Literacy in the Czech Population: Results of the representative Sample Survey

Introduction

Health literacy represents one of the key elements in context of the Czech Health 2020 policy. In spite of this premise, no valid data were at disposal to health policy makers. The replication of the EU Health Literacy Survey carried out in the eight EU countries proved to be the easiest and the most effective way to gather reliable data. We were not only able to gather Czech data but to make cross-country comparisons with other already surveyed countries, as well. The survey was financed partly by the Czech Ministry of Health and the Country Office of WHO in the Czech Republic.

Method

The representative sample survey of 1037 respondents older than 15 years was carried out at the end of 2014 by the National Institute of Public Health in Prague. Interviewers from the professional opinion poll agency interviewed respondents selected according to standard quotas using CAPI procedure. The standard questionnaire comprising more than 90 questions were administered in one-to-one interview. The key part of the questionnaire, battery of 47 Likert-type scales represents the operationalization of health literacy based on sophisticated model proposed by Sørensen et al. (2012). Thus standardized indexes of health literacy in areas of health care, disease prevention and health promotion were obtained. Besides that questions aiming at health and health behavior, socioeconomic and demographic variables were included. On the top of that the Newest Vital Sign index was calculated based on questions concerning understanding to the information on food labels.

Results

We found out that level of limited literacy (total of inadequate plus problematic literacy) in our sample is 59.4% and outnumbers adequate and excellent literacy. As for health literacy in the area of health care the limited literacy proved to be 49.5%, in the area of disease prevention it was 54.3% and in the area of health promotion it was even 67.3%. In comparison to results gathered in the EU-8 countries survey (Pelikan, Röthlin, Ganahl, 2014), the Czech indicators

in all aspects of health literacy lag behind the average of the 8 countries. The level of health literacy indicators of the Czech sample in all attributes fell behind the EU-8 sample by 5-8%. Health literacy relates to many demographic, socioeconomic variables as well as to health status and attributes of lifestyle. Higher level of health literacy corresponds positively with the level of education, frequency of physical exercising, level of subjective health status, and adversely with age, BMI, excessive drinking of alcohol beverages, level of financial deprivation.

Surprisingly enough the Czech respondents scored high in the level of NVS index. 72.1% of the Czech respondents exhibited high likeliness of adequate literacy, while in the EU-8 survey it was only 55.3%.

Conclusions

The results of our representative survey constitute a set of baseline data collected before launching the Czech Health 2020 program. We suppose to track the changes of indexes of health literacy as one of measures of effectiveness of implementation of the program.

Authors: Dr Zdenek Kucera (National Institute of Public Health)

2.g Social Determinants of Health Literacy

2.g.i) Limited health literacy: prevalence among older people with chronic illness in Germany

Introduction

Health literacy is especially important for older people with chronic illness as need to self-manage their illness. In contrast it has been shown, that they often are not able to understand labels on prescription bottles or know when to take their medicine. This can lead to poorer illness or medication self-management. International studies indicate that older people with chronic illness often have difficulties to access, understand and use health-related information, thus have low health literacy. In Germany empirical data about the prevalence of limited health literacy among older people with chronic illness are still missing in the health relevant areas health care, disease prevention, health promotion.

Methods

Therefore a representative survey of the German-speaking population aged 15 years and older (n = 2.000) was conducted at Bielefeld University (School of Public Health) in 2014. Data about subjective health literacy, health status, health behaviour and prevalence of chronic illness were collected in computer-assisted personal interviews (CAPI). Health literacy was assessed using the HLS-EU-Q-47 Questionnaire, developed by the European Health Literacy Survey (HLS-EU) in 2011. Data analysis included descriptive statistics and construction of health literacy indices to provide an overview of health literacy-levels in older people with chronic illness.



Results

A total of 476 participants were aged 65 years and older. More than half of the sample (n = 252) reported to have a chronic illness or a health problem that lasted six months or longer.

One in two of the elderly with chronic illness had a problematic health literacy-level (52.4%). Another 18.2% of the respondents possessed an inadequate health literacy-level. Thus, in total over 70% were limited in their health literacy. In contrast, only 1.5% had an excellent health literacy-level - for them it is easy dealing with health-related information in the health relevant areas (health care, disease prevention, health promotion). Elderly with chronic illness who had limited health literacy found it 'fairly difficult' or 'very difficult' to access information on treatments or understand medication labels.

Conclusion

The results of the cross-sectional study provide data of health literacy-levels among older people with chronic illness in Germany for the first time. In this sample the prevalence of limited health literacy is higher than previous results (i.e. European Health Literacy Survey) indicate.

The findings can be used as a basis for more detailed studies to investigate the impact of limited health literacy on self-management in older people with chronic illness in Germany and the development of targeted interventions to improve health literacy in vulnerable populations.

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2.g ii) The Influence of General Demographic and Socio-Economic, Migrant Specific and Psychological Determinants on Health Literacy among Migrants with Turkish or Ex-Yugoslavian background in Austria

Introduction

Health literacy (HL) is a strong predictor for the health status of individuals, and there is a considerable social gradient for HL. Migrant status is regarded as one of the relevant risk factors for limited HL and its negative consequences. However, there are yet very few studies concerning the HL of migrants in Europe and none for Austria. The first study on migrants' HL and related problems in Austria was carried out from 2013 to 2015 by the Ludwig Boltzmann Institute for Health Promotion Research (LBIHPR). The study focussed on two selected major migrant groups: people from Ex-Yugoslavia and Turkey and used a qualitative and quantitative design.

Methods

Following a mixed method approach, after literature analysis, expert interviews and focus groups were carried out to identify relevant health and HL issues for the 2 migrant groups in Austria. Subsequently, these findings were used for adapting the migrants HL questionnaire (based on the HLS-EU survey questionnaire) and to develop an additional migrant specific HL measure

(GKM-Q12) besides the HLS-EU-Q16 short form. This survey was conducted via telephone, reaching 625 migrants (325 with Turkish and 300 Ex-Yugoslavian background) living in Austria. For answering the research question, correlation analysis and multiple regressions analysis was used.

Results

One main result of the study is that demographic and socio-economic, migrant specific and psychological determinates explain different proportions of variance of HL. The 5 social determinants explain more variance of HL than the 5 migrant-specific determinants or the 3 psychological determinants. This also differs between the two migrants groups. The social, migrant specific and psychological determinants explain a higher percentage of variation of HL for the Turkish than for the Ex-Yugoslavian migrants. The strongest effect on HL in the Turkish sample is financial deprivation, followed by age and the "feeling of being at home" in Austria; for the Ex-Yugoslavian sample education, financial deprivation and external locus of control explain most variance of HL.

Conclusion

Diversity of migrants, even between relatively similar groups, has to be taken into account at least for health and HL matters. But as a considerable proportion of the variation of HL can be explained by general socio-economic determinants and not just by migration specific ones, migrants will also profit from more general interventions to improve HL of socio-economically deprived groups and not only from migrant specific ones.

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2.g iii) Relationship Between Health Literacy and Oral Health Status in Brazilian Adults

Introduction

Health literacy is the ability of individuals obtain, understand and act upon health information and to make appropriate health decisions, with ultimate goal being the maintenance of health or the management of disease in a variety of settings across life-course. Behavioral choices are rooted in the social economic circumstances of the individual's life and form the basis of health promotion strategies. It is well established that socioeconomic conditions are determinants in oral health and have direct association with unhealthy diet, inadequate personal hygiene, lack of good oral hygiene practices, inadequate sanitation, insufficient exposure to fluorides, and excessive use of tobacco and alcohol are risk factors for oral diseases. Health Literacy has been recognized as an important tool in empowerment, promoting autonomy and disease management. The purpose of the study was to investigate the relationship between Health Literacy and oral health status in Brazilian adults.



Methods

The cross-sectional study examined a random sample 248 adults aged 20 to 64 years, representative of adults in Piracicaba-SP, Brazil. One dentist (the examiner) and a community health agent collected data, between June and September 2011. Oral clinical examinations were conducted in households, following the World Health Organization criteria for caries experience (DMFT index), periodontal disease (CPI) and treatment needs for caries. The presence of biofilm was also verified. A questionnaire was used to collect data on Communicate and Critical Health Literacy scale, Oral Health-Related Quality of Life (OHRQoL) and health practices, such as oral hygiene habits and demand for dental service. HL was the main explanatory variable, measured using 5 Likert-response items which were dichotomized as High and Low HL. Binary/multinomial logistic regressions were performed on each oral health status and practice outcomes. The regression analysis have used 2 steps, first a model for adjusting sex and age, followed by, model 2 adjusting socioeconomic status (SES) for each outcome.

Results

Among the examined adults 71.5% (n=167) had low HL. The question 'I can interpret and judge the credibility of the oral health information' was the less prevalent regards HL 52% (n=142), indicating low HL mainly in regard to critical health literacy. The oral health status associated with low HL in model 2 was presence of dental biofilm (OR=1.83; CI95%=1.08-3.33). Untreated caries (OR=1.92; CI95%=1.07-3.45) presented significant for HL in the model 1, just when adjusted for age and sex. The presence of bleeding gum (p=0.62) and greater than 4mm periodontal pocket (p=0.33) were not associated with low HL. Regards to oral health practices, low HL were associated with tooth brushing least twice a day (OR=2; CI95%=1.11-3.62) and unusual tooth flossing (OR=2.17, CI95%=1.24-3.80) were outcomes associated with low HL in the first model, before it was included SES. Low HL was associated with dental care for emergency only (OR=2.85; CI95%=1.63-4.97), motivated by pain (OR=2.66; CI95%=1.26-5.65), and impacts on quality of life (OR=2.06; CI95%=1.11-3.62). Conclusion: Health Literacy was associated with health practices, impact on quality of life and biofilm even though adjusted for socioeconomic status. Once Health Literacy is modifiable, these results may help strategies on oral health promotion to improve outcomes in adult population.

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2.g iv) Measuring health literacy in adolescence and its role in a public health crises context (CrAdLiSa project- HLS-EU-PT)

Introduction

Health literacy (HL) as a concept and a tool to increment a person's ability to navigate throughout his or her life course is today deeply incrustated in discussions that focus health promotion and health care. In line with this,

educators and the education settings can play a major role in promoting HL as a direct outcome. New perspectives are being opened like the question if HL can be considered as a buffer variable at early ages (e.g. adolescence). Newly developed approaches have been used to study adults populations' HL, but the question has not been addressed on how this could be adapted and applied to earlier ages groups (like adolescents). The HLS-EU project has emphasized the dimensions of health care, health prevention and health promotion covering a wide range of perspectives in an integrated approach. With the present research, HL is assessed with an adapted version of the HLS-EU instrument, (the HLS-EU-PT) in a school setting. This was done in the context of a public health crises. In the last quarter of 2014 in a region north of Lisbon (VFX), Portugal, a legionella outbreak increased social stress, with 375 affected and 12 death (one of the worst outbreaks in Europe in recent years). Our research question was focused on how HL helped cope with the legionella outbreak in an adolescent population.

Objectives

The purpose of this research is to evaluate how health literacy could be an allied and a buffer to counteract social stress. It is considered a school setting from the affected area of the legionella outbreak.

Methods

A quantitative and qualitative explanatory cross-correlated study based on a sample of 215 adolescents from the VFX region of Portugal was collected in a school setting, after ethical procedures were followed. Measurement of adolescents HL (CrAdLiSa project) was implemented with the HLS-EU-PT survey, the Portuguese version of the European Health Literacy Survey instrument (www.literacia-saude.info).

Results

Reliability analysis of HLS-EU-PT dimensions show an internal consistence (Cronbach's alpha coefficient) of 0.946 (Health Care), 0.947 (Disease Prevention) and 0.958 (Health Promotion), while the global instrument presents a value of 0.98. Inadequate HL (4.2%) and problematic HL (25.6%) show that about 30% of respondents have limited HL. HL is associated with the perception of having resources to deal with a public health crises of a legionella outbreak. Those with higher HL have better assimilated public health messages by health authorities in social media to deal with the current crises, and, deal better with precautionary measures about the outbreak. The proportion of adolescents with higher levels of HL taking up measures to prevent being affected by the legionella outbreak was 76.8% while those with lower levels of HL that took up measures to prevent the situation were 23.2%.

Participants were more likely to take up measures to prevent the legionella outbreak if they had higher levels of HL ($\chi^2(1)=3.945, p<0.05$).

Conclusions

The results enhance the reliability, validity, internal validity, statistical validity longitudinal and linguistic validity, as land marks of the translation and



validation process to Portuguese of the HLS-EU survey and applied to evaluate adolescents HL. HL seems to play a buffer role in a crises situation. Further research must investigate HL potential at this age range and how it should be developed in the school curricula.

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2.g.v) Health literacy in Catalonia: results from the Health Survey of Catalonia

The World Health Organisation describes health literacy as the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health. Health literate individuals have skills to keep healthier by themselves and to maintain their quality of life for longer. In ageing societies, where chronic conditions are expected to keep growing while resources will remain stable, health literacy is one of the keys challenges facing community health at the beginning of the XXI century.

The Health Plan for Catalonia (HPC) is the indicative instrument and framework for all public programs in the field of the Health Ministry of the Government of Catalonia. The main 2020 goal of the HPC 2011-2015 is to increase healthy life expectancy, that is, the proportion of years with a good self-perceived health status. This objective aligns with the purpose of promoting more health literate societies. In order to define the strategy of the Health Ministry in the field of health literacy, a description on the level of health literacy of Catalanian population was necessary. During 2014 the health survey for Catalonia (HSC) included in a specific module the short version of the European Health Literacy Survey Questionnaire (HLS-EU-Q16). HSC is an official survey that provides information on the health status, life styles and the use of health services of Catalonia's population. More than 3.000 people aged 15 and over answered the questionnaire - administered in Spanish or in Catalan -. HLS-EU-Q16 is a shortened version of the questionnaire HLS-EU-Q47, developed by the European Health Literacy Project 2009-2012, which was administered in eight different countries. As the longer version, HLS-EU-Q16 assumes a multidimensional concept of health literacy, which helps to identify health literacy profiles of individuals, but also of populations.

Results show that the proportion of people with insufficient health literacy (either problematic or inadequate health literacy levels) is higher among people aged 65 and over, among people who attained primary education or below, and among people who according belong to lower social classes (based on an occupational classification). On the other hand, people without sufficient health

literacy show worse perception of their own health status, declare chronic conditions and have disabilities in a higher proportions than those who have sufficient health literacy levels. Regarding the use of health services, people with problematic or inadequate health literacy levels attend to the GP, go to the hospital and to the emergency department more frequently than people with sufficient health literacy. The analysis of this results is the starting point to identify areas of improvement, will help to design interventions aimed at different segments of population, adapted to their needs and of health services. The strategy on health literacy promotion aligns with a person-centred system, much more integrated on its social and health dimensions.

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2.g.vi) Health literacy: a mediator of health disparities following migration from Somalia, China and India

Introduction

People who migrate to developed countries are often subjected to rigorous pre-selection health screening that ensures they have equivalent or better health than the average citizen of the host country. However, in many migrant groups a health decline is observed in as little as three years post-migration.

Evidence suggests that levels of health system engagement may account for some of the decline in the health of migrant groups. Health literacy, which is the ability to find, access, understand and use health information and services, is a key determinate of health system engagement.

The contribution of socio-cultural influences on health literacy and the link between health literacy and the health disparities seen in migrant groups, has not yet been fully explored. This study seeks to address this gap and inform the development of culturally congruent interventions.

Methods

The study employed a mixed method, grounded research design conducted in three phases. In phase one, semi-structured interviews (n=45) were undertaken with representatives of three cultural groups: Chinese, Indian and Somali migrants to Australia. The interviews inquired into: health beliefs, disease attribution, health information seeking and health behaviours. Data analysed using an NVivo coding process and thematic analysis. In phase two, cognitive interviews (n=12) tested the utility of The Health Literacy Questionnaire (HLQ), a robust and widely used multi-dimensional measure of health literacy. Phase three involved a needs assessment (n=240) using the HLQ to identify common health literacy strengths and difficulties among the three groups.



Results

Common themes across the three groups included: disease attribution, preference for distributed decision making, somatic expression of mental health, traditional practices, and preference for culturally congruent health information from local and transnational sources. Themes particular to each group included: (Somali group) distrust, aversion to a diagnosis concept, a determinist view of health; (Chinese group) low levels of acculturation, cultural health networks; (Indian group) aversion to a diagnosis concept. HLQ results revealed that health literacy profiles varied across the three groups. All three groups showed high levels of social support and were challenged in the areas of health information access and appraisal. The Somali group showed the highest mean scores across all nine domains with the Chinese and Indian groups showing similar results. Cognitive interviews showed differences in HLQ interpretation.

Conclusion

Culturally determined health beliefs influence health literacy and consequently health system engagement. Low levels of health system engagement appear to be strongly linked to health disparities seen in and between migrant groups. The higher HLQ scoring seen in the Somali result may relate the socio-cultural positioning of a refugee group. The development of culturally congruent health interventions which increase the health literacy of migrant groups, and/or are responsive to the health limitations and strengths they possess, may reduce the health disparities experienced by these vulnerable groups.

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2.h Understanding Health Literacy

2.h i) Functional, communicational and critical health literacy as factors in parent's compliance with children's vaccinations

Introduction

Vaccines are a common form of modern technology used worldwide and one of ten notable public health achievements of the 20th century. Despite the benefits of vaccines, vaccinations have evoked resistance among some parents for many reasons. Parents' health literacy can be a barrier or an enhancing factor effecting decision making regarding child vaccinations. Studies show that people with high health literacy have a higher chance of complying with preventive health behaviors. However, the association between childhood vaccination and health literacy has not been investigated.

Methods

A cross-sectional study was conducted among 730 parents of children aged 3-4 years. A functional, communicational and critical health literacy questionnaire was constructed, adapted for childhood vaccinations. In addition, parents were asked about their attitudes towards vaccines, these included 3 categories: positive vaccine attitudes (PVA), negative vaccine attitudes (NVA) and attitudes that opposed the demand to vaccinate children by law (LVA). Path analysis was conducted to explore direct and indirect associations of compliance with childhood vaccinations and health literacy.

Results

Communicational health literacy has a significant negative direct association with childhood vaccinations ($\beta = -0.06$, $p < 0.05$). Functional and critical health literacy have significant indirect associations with childhood vaccinations through parent's attitude regarding vaccines. High functional health literacy is associated negatively with PVA ($\beta = -0.07$, $p < 0.01$) yet positively with NVA ($\beta = 0.09$, $p < 0.01$) which is associated with lower compliance with vaccination. High critical health literacy is associated positively with NVA ($\beta = 0.26$, $p < 0.001$) and positively with LAV ($\beta = 0.14$, $p < 0.001$) which is associated with lower compliance with vaccination.

Conclusions

This study explored the association between parents' compliance with routine childhood recommended vaccination and functional, communicational and critical health literacy. Path analysis outlined a possible causal model indicating the impact of health literacy on childhood's vaccination. The results paradoxically indicate that parents with high functional, communicational and critical health literacy are more at risk of not vaccinating their children. The results are contrary to expectations were people with high health literacy adapt positive health behaviors.

Public health policy makers, as well as service providers, need to be aware of these associations and tailor suitable programs to avoid decline in vaccines coverage rates.

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2.h ii) Health Literacy in Childhood and Adolescence (HLCA): Exploring and Developing Theories, Concepts, and Models on Health Literacy in Childhood and Adolescence (HLCA-TeCoMo)

Introduction

Recent evidence has highlighted the critical impact of low health literacy on health and its importance for health promotion and prevention. Interestingly, it seems that rather little health literacy research puts children and adolescents at the core. This contrasts with the importance given to childhood and youth



for healthy human development, and for health and well-being throughout adulthood. For the next three years, the German "Health Literacy in Childhood and Adolescence (HLCA)" consortium strives to tackle this shortfall by exploring a multidisciplinary perspective to health literacy within this target group. This consortium's sub-project "Theories, Concepts and Models (HLCA-TeCoMo)" was launched in April 2015. It specifically aims (a) to scope and synthesise the available evidence related to child/adolescent health literacy concepts, models, and definitions; and (b) to develop an integrated definition and conceptual framework of health literacy, capturing dimensions related to the target group.

Methods

In the current phase, a systematic literature review is performed to identify existing concepts, models and definitions of child/adolescent health literacy, as well as relevant child development factors. Scientific online databases covering multiple disciplines, among others, health/medical (i.e. PubMed) and educational research (i.e. ERIC), are searched to identify scientific evidence reporting on the concepts in question. A content analysis will be carried out to identify relevant dimensions of health literacy in children/adolescents. These results, and at a later stage, the developed definition, model and conceptual framework will be opened for expert review. Here, possible channels are a Delphi panel and consulting the consortium's scientific expert advisory board.

Results

Preliminary results of the literature review suggest that evidence of definitions, concepts and models for health literacy in children/adolescents is poor when addressing it from a medical/public health perspective. Instead, health literacy in the target population is rather well conceptualised in adjacent disciplines, especially in the context of school health education. So far, the role of contextual and structural factors promoting or limiting the genesis of child/adolescent health literacy and the acquisition of relevant skills and knowledge has been poorly conceptualised. Moreover, it seems evident, that child development factors, intergenerational and power relations, children's image and their role as active citizens within the community and societal settings (i.e. health care, school) need to be considered when addressing health literacy in the target group. The importance of children's rights and ethical dimensions to child/adolescent health literacy is highlighted as well.

Preliminary Conclusion

TeCoMo strives to innovatively open up the field of health literacy in children/adolescents from a public health perspective to integrate perspectives of literacy and developmental studies, socialisation, psychology, educational science, respectively. As such, TeCoMo aims at contributing to the evidence base and understanding of health literacy within children and adolescents by providing a hands-on conceptual framework and model. The model could be operationalised for assessing health literacy within the target group, as it will be conducted within the sub-project "Methods of Measuring Health Literacy of Children" (HLCA-MoMChild).

Authors: Ms Janine Broeder, Mr Orkan Okan, Mr Dirk Bruland, Ms Ester Lopes, Prof Ullrich Bauer, Dr Paulo Pinheiro (all Bielefeld University, Germany, Faculty of Educational Science, Centre for Prevention and Intervention in Childhood and Adolescence (CPI))

2.h iii) Health Literacy does not equal Health Literacy - Exploring the effects of language-dependent and independent health literacy in three immigrant groups in Switzerland

Introduction

Research from the US has shown that racial/ethnic minorities are more often afflicted by limited health literacy and related health outcomes. Yet, little research has focused on how health literacy might be distributed across different immigrant groups. In particular in Europe little is known about possible relationships linking health literacy to health outcomes.

The objective of this study was to test whether language-dependent, respectively language-independent, health literacy and variables of acculturation are independent predictors of general health status among three different immigrant groups in Switzerland and to compare them to the native population.

Methods

1100 face-to-face interviews were conducted with Swiss natives and first generation immigrants from Albania/Kosovo, Portugal or Bosnia/Serbia.

Language-independent functional health literacy was assessed with the Short Test of Functional Health Literacy (S-TOFHLA) in the respective native languages of the different groups. Language-dependent health literacy was assessed by asking participants about being confident in reading and understanding health information in the language of the host country. Measures of acculturation included length of stay and age when taking residency in Switzerland.

Results

Preliminary analyses showed that participants with a migration background had overall lower health literacy levels than Swiss participants. Adjusted regression analysis revealed that in the Albanian- and Serbian-speaking groups perceived difficulties in understanding medical information and not being confident with filling out medical forms in the host country's language were more important predictors of general health status than language-independent functional health literacy or any other acculturation variable ($p < .05$). However these variables were not significant predictors in the Portuguese-speaking group.

Conclusions

Results suggest that original health literacy in one's native language might be less predictive of health status in immigrants than understanding of medical information in the language of the new host country. Thus, eventually leading to worse health outcomes in general and potentially disparities in health. In particular in the clinical setting limited language proficiency might be a significant obstacle to successful disease treatment and prevention.



Further, findings point towards the fact that even if people have spent considerable time of their life in the new host country, possible segregation and homogenous networks might have prevented language acquirement, including skills necessary to navigate sufficiently in the new healthcare system.

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2.h iv) Older People, Mental Health and Wellbeing: A Mixed Methods Study

Introduction

Improving mental health across the life course and into older age is a Government priority. Depression affects many older adults however it is under-recognised and under-treated. Mental health literacy (MHL) is knowledge and beliefs about mental disorders which aid their recognition, management or prevention. Improving MHL could improve recognition of depressive symptoms, increase help-seeking behaviour and access to mental health services. To date little UK research has been done on MHL and older people.

This exploratory study aims to:

1. Review existing literature on views of MHL and older people
2. Measure HL and MHL levels in a sample of older adults
3. Test the feasibility of using HL and MHL measures with older adults
4. Explore the views of older adults and of primary care health professionals about MHL (specifically the recognition of depressive symptoms, management and prevention of depression including help-seeking behaviour and access to mental health services)

Methods

This is a 3-phase mixed methods study.

Phase 1: We searched five databases for empirical qualitative MHL studies (1970-2014). Study quality was assessed using the CASP Qualitative Research Checklist. Following extraction the data were synthesised using thematic synthesis.

Phase 2: 374 people (52% response) from the cohort of a previous study, The Collaborative Care in Screen-Positive Elders (CASPER) study, aged 65 years and above completed a postal questionnaire to assess their HL and MHL levels using validated measures. The people in this cohort have previously been assessed for depression and were not depressed. Descriptive statistics were undertaken to explore HL and MHL levels by gender and age (>65, >75) as well as completion rates of the HL and MHL measures (and their components) to assess feasibility of completion within this population.

Phase 3: A sub-sample of 16 Phase 2 participants and 2 nurses were interviewed to explore views about MHL in older people (personal and practitioner experiences). Data are being analysed using thematic analysis. NVivo is facilitating data handling.

Once independently analysed, the data from all three phases will then be synthesised using a triangulation protocol.

Results

Only three studies that explored MHL in older people were identified for the review. Two of the studies were of Hmong elders in the US and one was of older African Americans. Key barriers to accessing mental health services were cultural beliefs about mental health (fear of stigma), language, and a lack of understanding, trust and awareness of services. Quantitative analysis (n=366) of the HL data has revealed that scores were similar across all nine domains of the Health Literacy Questionnaire ranging from Mean 2.6 to 2.9 (out of 4) and Mean 3.8 to 4.1 (out of 5). Domain scores did not show substantial differences across age groups and gender.

Quantitative and qualitative data analysis: and the mixed method synthesis will be completed by October 2015.

Conclusions

NHS England and Royal College of General Practitioners recently launched a 5-year action plan to address challenges created by low MHL. This exploratory study will begin to develop understanding of this poorly researched, yet rapidly emerging area.

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2.h v) Examining health literacy practices: a qualitative approach

Background

Few research studies have examined health literacy either in terms of its broader health promotion context or using a qualitative methodology. While health literacy measures are an important tool to raise awareness of the issue, the addition of qualitative approaches can further illuminate the barriers and facilitators to health literacy development. This is of particular relevance for individuals in managing their health.

Aim

To investigate and describe how individuals develop and practice health literacy in the management of their health.

Methodology

This study is part of a larger on-going longitudinal qualitative study design with three waves of data collection. Purposeful sampling was employed and semi-structured interviews undertaken with 26 participants who are attending a community based cardiovascular disease prevention and health promotion programme. Participants also completed the HLS-EU 47 item instrument to determine levels of health literacy. The interview data was analysed using a thematic analysis methodology.



Preliminary Findings

The HLS-EU measure at baseline indicated a high degree of limited general health literacy for the majority of participants (65%) as well as for the health promotion domain (69%) and the prevention domain (66%) with a lower level for the health care domain (46%). The HLS-EU conceptual model was used as the framework to examine how participants access, understand, appraise and use health information. Preliminary findings indicate that the majority of participants actively seek out health information and do encounter some difficulties in terms of understanding health conditions. Various strategies are used to make judgements on health information but barriers putting health information into practice also exist. Further themes being explored are the pivotal role of the GP, communication and the sense of being in control for individuals.

Conclusions

The addition of qualitative data can expand our understanding of how health literacy is facilitated /hindered for individuals in managing their health and well-being.

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3. Poster Presentations

3.a Measuring Health Literacy during the Life Course

3.a i) The Health Information Literacy Knowledge Test (HILK): Construction and results of a pilot study

Introduction

Health information literacy comprises a set of abilities needed to recognize a health information need, search and evaluate relevant health information, and to use this information to make appropriate health decisions. Until now, the construct is usually assessed by self-reports or by achievement tests requiring participants to read and interpret medical information. The new "Health Information Literacy Test" (HILK) is constructed to shed light on a person's knowledge about planning and conducting goal-directed health information searches in everyday life. The test is based on a skill decomposition derived from models of information problem solving as well as general models of information literacy (e.g., the Big6 skills). It represents four skills (definition of information need, planning an information search, accessing information sources, scanning information) with two subskills each. For each subskill, four to nine multiple choice items were formulated which require participants, e.g., to recognize adequate sources to satisfy a specific information need, or to evaluate health materials (snapshots of websites or extracts from books) with regard to their relevance or quality. The test focuses on different types of information sources and providers, e.g. books, libraries, and the internet. For each item, three potential answers are given, and participants are instructed to mark all answers (between none and three) which are correct.

Methods

The test was empirically developed in two studies. In an expert study, N = 11 psychologists from the field of information literacy research (6 male, 5 female) worked on a preliminary paper-and-pencil test version with 57 items. Four items were dropped because experts did not reach an acceptable consensus about the correct answers. In addition, the experts' feedback was used to refine several item formulations to make them more explicit.

The resulting pilot version of the HILK with 53 items is tested in an ongoing study including first and second year psychology students (prospective sample size: N = 100). The aims of this study are to shorten the test based on psychometric properties of the items (difficulties, item-total correlations), and to provide first arguments for its validity. Participants complete the HILK together with a validated test of domain-specific scholarly information literacy and a battery of self-report questionnaires assessing (1) self-efficacy beliefs related to health-related information, (2) behaviors during the search for and evaluation of health information, (3) current health status, (4) health related control beliefs, and (5) health anxiety.

Results

Preliminary results based on n = 58 participants (18 - 27 years, 85 percent female) indicate that an abridged version of the HILK with 33 items



demonstrates acceptable internal consistency (Cronbach's Alpha = .71) and is moderately correlated with the scholarly information literacy test for psychology. In addition, participants with lower HILK scores report more dysfunctional health-related cognitions, i.e., more external health-related control beliefs as well as higher health anxiety.

Conclusions

The HILK is an economic test of knowledge about seeking and evaluating everyday health information. The test may be used for research purposes, but more evidence is needed before applying it, e.g., to identify targets for health information literacy interventions or to evaluate these interventions.

Authors: Dr Anne-Kathrin Mayer (ZPID - Leibniz Institute), Ms Julia Holzhaeuser (ZPID - Leibniz Institute)

3.a ii) Health literacy in life course: what explains limited health literacy among different age groups in Germany?

Introduction

International studies indicate that health literacy worsens with increasing age. Given the fact of ageing populations and increasing health costs in Europe older people seem to be an important target group for health literacy measures. The aim of the analysis is therefore to assess the relation of age and health literacy in the German population).

Methods

A representative sample of 2,000 people from Germany participated in a cross-sectional survey using computer-assisted personal interviews (CAPI) in 2014. Health literacy was assessed by the HLS-EU-Q-47 Questionnaire. Further data about socio-demographics, chronic illness and health behaviour were collected. The effects of age groups on health literacy were assessed by chi-square test and logistic regression modelling.

Results

Overall 54.3% of the respondents had limited health literacy. The proportion of limited health literacy differs among age-groups ($p < 0.001$). While 47.3% of the participants aged 15-29 years were categorized as having limited health literacy, 66.5% respondents aged 65 years and older had limited health literacy. Participants aged 46-64 years (OR 1.44; 95% CI 1.11-1.88) and 65 years and older (OR 2.29; 95% CI 1.70-3.07) were more likely to have limited health literacy than respondents aged 15-29 years. After adjusting for gender, migration and education this effect remains almost the same (OR 46-64 years: 1.53, 95% CI 1.17-2.02; OR 65 and older: 2.34, 95% CI 1.73-3.16). When also including chronic illness in the model the odds of having limited health literacy among older age groups decreases (OR 46-64 years: 1.25, 95% CI 0.94-1.65; OR 65 and older: 1.53, 95% CI: 1.11-2.11) and only remains statistically significant for people aged 65 years and older.

Conclusion

The results indicate that older people more often have limited health literacy. But taking chronic illness into account reduces the age-effect considerably. A reason might be that chronically ill people have to cope with more complex health situations than healthy people do. Therefore they might perceive the health tasks in the questionnaire more difficult. There is need for further analysis also taking objective measures such as knowledge, self-management, and health care use into account.

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3.a iii) Measuring Maternal Health Literacy of Adolescents in Uganda

Introduction

Owing to the increasing prevalence of adolescent pregnancies worldwide and the known impact of health literacy on the health outcomes of individuals, there is need to focus on the maternal health literacy (MHL) of adolescents. Identification of contributory factors to MHL can be used to devise approaches aimed at reducing on the negative health outcomes associated with adolescent pregnancies. This paper gives an insight into the significance of selected person factors on MHL of pregnant adolescents in Uganda-a low income developing country in East Africa.

Methods

As no known appropriate MHL assessment instrument exists, a Maternal Health Literacy (MaHeLi) scale was developed, applied and validated to assess the MHL of 384 consenting pregnant adolescents aged 15-19 years.

The scale, comprising of 12 items categorized under two subscales: appraisal of health information (AHI) and competence and coping skills (CCS) also included five items to capture demographic and reproductive health information. The 'Health Belief Model' and the 'Integrated health literacy model' formed the basis for development of the items. The AHI subscale was comprised of items reflective of cognitive skills pertinent to the interpretation, application and evaluation of health information. The CCS subscale was comprised of items which evaluated problem-solving and decision-making abilities, social skills, interpersonal and communication skills.

Using RUMM2030, MHL estimates were computed and these were imported into RUMM20. Tests for 'significance' in MHL estimates across the dichotomized person factors were determined using the Mann-Whitney U tests. Correlations with MHL estimates for single person factors and multiple correlations for groups of variables (R² model) were also computed.



Results

'Age', 'Education level' and 'Pre-pregnancy awareness about conception' revealed significant differences with scores of (0.0028, 0.000 and 0.000). There were no significant differences observed across 'pregnancy order' and 'frequency of condom use'. These results were consistent with studies which showed that older adolescents better apply health information compared to their young counterparts. Additionally, adolescents who had completed at least primary 5 education were found to possess better health system navigation skills than those who hadn't. The strong positive correlation of 'pre-pregnancy awareness about conception' indicated that access to reproductive health information might be associated with higher levels of health literacy among adolescents.

Simultaneous regression showed that four of the person factors considered explained approximately 12% of the observed variance in MHL estimates. Pre-pregnancy awareness (8.00%), Age (5.52%), Education level (4.67%) and Pregnancy order (0.14%). This was attributed to the limited range of person factors in the study.

Conclusions

To enhance the maternal health literacy of adolescents and possibly minimize the negative health outcomes associated with adolescent pregnancy, there is need for timely provision of appropriate health information to all adolescent girls at all ages in the various settings.

Additionally, further development of the scale to include more varied personal factors on a more diverse sample will give a better insight into the socio-environmental factors which have an impact on MHL among adolescents and possible predictors and fuelling factors for adolescent pregnancy.

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3.a iv) Measuring school-aged children's subjective health literacy

Inadequate health literacy (HL) has been found to be a risk factor for poor health. Thus, it is not surprising that HL is one of the key global health promotion goals and objectives today. The development of HL across lifespan requires its measuring and monitoring in all age groups. Despite of the increasing interest in measuring HL, instruments for examining children's HL are rare. In addition to the development of measures, it is important to identify risk and supportive factors for children's HL, and to understand how HL is related to children's health behavior and health.

HL is understood as a competence to make sound health decisions that benefit people's own health and that of the others, and to identify and work on the factors that constitute health chances. The aim of the study is to develop a short tool to measure school-aged children's subjective (self-reported, perceived) HL in the context of a HBSC-study (Finnish). The instrument allows studying 7th

and 9th graders' HL, the association between the background variables (e.g. socioeconomic status, learning difficulties, school success) and HL, and the association between HL and children's health behavior and health.

The development process of the health literacy questionnaire contained five main phases. First, conceptualization of school aged-children's HL (five core components, see Paakkari & Paakkari, 2012). Second, item generation (60 items) based on theoretical framework, relevant literature and external consultation. Third, pilot study (n=391, 32 item, sampling of items, pupils' interviews), and fourth, test-retest assessment (n=117, 16 items). Fifth, data collection (n=3853, 16 items), after which psychometric analysis produced final instrument with 10 items.

The preliminary results showed that the instrument worked rather well in that the item distributions were good and instrument had strong internal consistency over all items. In addition, various forms of health behaviors and perceived health were differentiated reasonably well, although there are some further challenges that should be worked out (e.g. cross-loadings).

The research provides information on what kind of knowledge and skills should be promoted among young people, so that they could understand themselves, others and the world, and make decisions that promote health and wellbeing in their surroundings. In a Finnish context, the instrument provides an opportunity to measure how learning objectives of basic education curriculum have been reached.

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3.a v) Measuring childhood health literacy in relation to physical activity - a first step

Introduction

As literacy develops during childhood, so will health literacy develop in children - either as an outcome of school health education or as an outcome of what children capture from parents, peers and the media. Yet little health literacy research has focused on children. Calls have been made for empirical health literacy studies that are both content-, context- and age specific. Overweight and sedentarism among children are early risk factors for lifestyle diseases. Low health literacy in children is shown to be associated with both being overweight and with risky behaviour. Thus, early prevention is important, for instant in terms of developing children's health literacy. However, very little health literacy research has focused on the specific domain of physical activity. Thus, the objective of this study was to conceptualize and measure health literacy in relation to physical activity in children.



Methods

We conducted a survey among Danish pupils from Grades 5, 6, and 7, aged 11-14 years who were about to participate in a combined maths and health educational program called "IMOVE": 281 pupils completed the questionnaire that was developed using a mixed-methods design with open-ended and closed questions according to the health literacy framework presented by Don Nutbeam. He highlights health literacy as an outcome of health education and makes the distinction among three levels of health literacy: functional, interactive, and critical health literacy.

Results

We found the questions asked enabled pupils to express their health literacy regarding all three levels. The pupils reported knowledge about the benefits conferred by physical activity and the risks of inactivity that are compatible with messages communicated by health authorities (functional health literacy). They reported being active with different degrees of frequency, intensity, and motivation (interactive health literacy), and they identified determinants for physical activity in the school environment and made suggestions for changes to increase physical activity (critical health literacy).

However, it was not possible to convert the findings derived from the open-ended questions into variables that measured a development in health literacy by grade within each health literacy dimension or to measure the composite, three-levelled concept of health literacy in relation to physical activity.

Discussion

It is a special challenge to measure health literacy in children compared to adults because children are developing literacy and maturing cognitively year by year. We measured by grade, but found that pupils from Grade 5 were as knowledgeable as pupils from Grade 7 with regard to functional and critical health literacy. It may be because our measure is not good enough but it may also be that the level of health literacy is not markedly different in Grade 5 compared to Grade 7.

The concern is raised as to whether a health literacy concept adapted to a particular content, context and age group of children becomes so specific that it becomes too complex to develop a corresponding health literacy instrument. In other words, is it viable to get at health literacy measurement instrument for each health education situation?

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3.b Social Determinants of Health Literacy

3b. i) Comprehensive health literacy is associated with experiences of the health examination for asylum seekers - A Swedish cross-sectional study.

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Introduction

Little is known about refugees' health literacy (HL) and their experiences of the health examination for asylum seekers (HEA). Communication problems and difficulties with HL are common in clinical care targeted to migrants. Limited language skills, different cultural views of health, and health care knowledge about health and health literacy may explain some of the communication problems. From a public health perspective, communication problems are serious as they limit access to health care and information. One vulnerable group of migrants in terms of health is refugees, i.e. persons who have fled from and/or cannot return to their country for a well-founded fear of persecution, including war or civil conflict. Many refugees come into contact with health information when they participate in an HEA, provided in most countries that accept refugees. The overall purpose of HEA is to identify poor health in order to secure the well-being of seekers of asylum and to guarantee the safety of the population in the host country. Refugees' experiences of communication during the HEA and about its usefulness are thus far not known. However, important information and good communication and interpersonal relations between health care receivers and providers are viewed as being important to the quality of health care. In the context of HEA, limited HL may result in failure to identify health problems and in participants not getting treatments and information their medical situation calls for. The purposes of the study were to investigate refugees' experiences of communication during their health examination for asylum seekers and the usefulness of that examination, and to investigate whether health literacy is associated with those experiences.

Methods

A cross-sectional study was performed in 2013, among 455 adult refugees speaking Arabic, Dari, Somali or English. Health literacy was measured using the Swedish Functional HL Scale (S-FHL) and the short European HL Questionnaire (HLS-EU-Q16). Experiences of communication and the usefulness of HEA were measured in several questions. Uni- and multivariate statistical methods were used to investigate group differences.

Results

A considerable proportion of refugees in Sweden had bad experiences of the communication and the usefulness of HEA. Refugees with inadequate comprehensive HL experienced more communication problems and the examination as less useful, compared to those with non-inadequate comprehensive HL. No differences in those experiences could be seen between refugees with different levels of functional HL.



Conclusion

Refugees' own experiences indicate that a low level of comprehensive HL could act as a barrier to fulfilling the purposes of HEA. Comprehensive HL seems to be of greater importance in that context than functional HL. Health literacy must be highlighted and acted upon in clinical praxis to increase the quality of HEA.

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3b. ii) The role of health literacy on diabetes risk among African immigrant women in Oslo and Akershus regions of Norway

Background

Immigrants in Europe have poorer health compared to mainstream communities, which may be explained by lower health literacy, i.e. lack of capacity to obtain, understand, and act upon health information and services and to make appropriate health decisions on their own. The aim of this study is to examine the level of health literacy and the association between health literacy and diabetes risk among African immigrant women in Oslo and Akershus regions of Norway.

Methods

A cross-sectional study using respondent driven sampling (RDS) method was performed among 302 Somali adult women in Oslo and Akershus regions of Norway from September to November 2014. The information was collected using health literacy questionnaire (HLS Q-16) which was previously used among immigrants in Sweden; in addition to finish diabetes risk score (FINDRISK). Health literacy questions were scored and the median score of the 16 item questions were used to dichotomize the health literacy variable into two categories ('adequate', and 'inadequate' health literacy). Uni- and multivariate statistical methods were employed to investigate group differences, variables associated with inadequate health literacy, and correlations between health literacy and diabetes risk.

Results

Contrary to the expected, relatively small proportion (13.5%) of study participants had inadequate health literacy. This was unusual compared to previous study among Somalis in Sweden that showed two fold higher level of inadequate health literacy (27%) among Somalis. Poor language proficiency (OR:5.03, CI 2.29-11.0) and low level of acculturation (OR:5.34, CI 2.27-12.6)

was associated with the observed inadequate health literacy among African immigrant women. However, there was no association between diabetes risk (OR 1.21, CI 0.6-2.4) and health literacy. Similarly, no association was found between body mass index, waist circumference and level of health literacy. Conclusion: Further research that use larger sample size is required to better understand the role of health literacy on diabetes risk among Somali immigrant women in Norway. Besides, methods to increase health literacy for those with low health literacy is required.

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3b. iii) Microfinance Helps to Improve the Health Literacy Level of their Beneficiaries: Scenario From Bangladesh

Introduction

Microfinance system (MFS) is widely used around the world to promote and communicate health knowledge among specific target populations especially women besides poverty. MFS was also started in Bangladesh in 1970. It grew up with so many controversies. TMSS (THE NGAMARA MAHILA SHEBA SHANGHA) is also an NGO for females with MFS system who claims to improve the health and health literacy for their beneficiaries. To find out how and to what extent it helps its beneficiaries in a particular rural area this study was conducted.

Method

Health literacy (HL) was defined by researcher based on certain health issues. To assess the HL level total 450 clients (mean age 35.88 ± 7.589 yrs) of TMSS were interviewed through preset structured questionnaire.

Result

37.8% were uneducated, 29.1%, 27.1% and 6.0% had primary secondary and above secondary level of education respectively. 43.6% of them were from urban area and 56.4% were from rural area. 42.7% using microfinance for less than 6 years. While 35.6% using 7-10 years, and 21.8% using for more than 11 years. It was found that knowledge regarding certain health issues had been enhanced among participants who used microfinance for longer time. 9.77% of the respondents had poor HL level, 71.11% had moderate and 19.77% had excellent level of HL with mean of 18.3 out of 25. Most of the respondents from age group 31-40 were found to have more HL. The difference in HL level between the groups of microfinance using duration and age of the participants found significant ($p < 0.001$). It has also found that microfinance influences in health awareness.

Conclusion

Influence of microfinance on health literacy has been proved but the actual meaning of health literacy with more study by number and depth is required to reveal ultimate scenario.



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3.c Health Literacy and Innovations in Communication

3c. i) Older adults with low health literacy and their use of e-health tools: Results of the IROHLA project

Background

E-health is becoming increasingly important in modern healthcare. Health professionals recommend e-health tools to their patients, for example to support their medication adherence or diabetes management. Also, many available e-health tools allow people to improve their self-management regarding health. However, older adults with low health literacy may have problems using e-health services, while this is the group that could potentially benefit the most. Little is known about the needs of this specific target group with regard to e-health services, and to what extent existing e-health services meet these needs. Our aim was to assess these two issues and to formulate criteria for the use of e-health services among persons with low health literacy.

Methods

We report on the results of the research conducted within the context of the IROHLA project with regard to e-health. In this project, expert discussion and scientific literature were used to develop two questionnaires. The first questionnaire assesses the relevance of various criteria for older adults with low health literacy with regard to the use of e-health services in general. The second questionnaire assesses the degree to which an existing e-health intervention meets these criteria. These questionnaires were applied in four different pilot studies on e-health in older adults. In the results section, we will report on the results of one of these pilots. This pilot study focused on the Personal Health Assistant (PHA), an e-health service that supports its users in achieving or maintaining a healthy lifestyle. It does so by informing and educating its users and by supporting behavioral change and maintenance, with a focus on physical activity, dietary behavior, and building a community.

Results

Using both questionnaires that were developed in the framework of IROHLA, we evaluated the needs with regard to e-health of a sample of 10 older adults (mean age = 68.9 years) with relatively low levels of health literacy, and the degree to which the PHA met these needs. It was found that all criteria on the list were considered important, with privacy and reliability of information being the most important. The PHA partially met the needs of the sample. While participants evaluated the readability and reliability of the information in the PHA positively, participants found the service complicated to learn and use, which stresses the importance of simplicity with regard to e-health tools for older adults with low health literacy. Based on the comments from the participants, some adjustments were made in the PHA, which received mixed appreciation.

Conclusions

We conclude that older adults with low health literacy have a large number of needs regarding e-health and that current e-health services only partially meet these needs. Criteria assessing the degree to which e-health services are suitable for older adults with low health literacy are useful. Further analysis of the other pilots will enhance our view of the validity of those tools and contributes to the formulation of criteria for use of e-health services among persons with low health literacy.

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3c. ii) Re-imagining informed consent: creating harmony between the law and health literacy

Informed consent is broken -- both as a legal doctrine and as an ethical obligation. Too often, providers hide behind the wall of traditional, hard-to-read informed consent forms. You can't blame them. After all, it is their lawyers that tell them to use these forms to legally protect their interests. As a result, patients are forced to read forms that tell them their risks and alternatives, rather than having a mutual conversation with their providers. But a harmony can be achieved.

This session will start by discussing the various international legal standards for informed consent. Then it will examine the traditional, hard-to-read form through the lens of a patient with low health literacy. Finally, it will discuss a new, re-imagined form that both protects the provider's legal interests and fosters the conversation between patient and provider. It can be done. Come see how.

Authors: Prof Christopher Trudeau (Western Michigan University - Cooley Law School)

3c. iii) Processing mechanisms: what makes online health information difficult to understand for people with limited health literacy?

Background

Health information is widely available online. As many people use the Internet for health-related purposes, online health information has become an important information source. Unfortunately, people with limited health literacy often experience difficulties with processing the information that can be found online, resulting in worse understanding and recall. As information can only be effective when it is adequately processed, online health information might be less useful for people with limited health literacy compared to people with adequate health literacy. Consequently, the knowledge gap between people with limited and adequate health literacy might further increase. It is unclear,



however, what exactly causes processing differences between health literacy groups. To get better insight into this mechanism, our study explores three different mediators that are based on theory and could explain the quality of information processing among people with limited health literacy. These mediators are involvement with the message, the amount of cognitive load that is required for message processing, and perceived vividness of the information.

Method

We conducted an online survey among 600 panel members of a Dutch research company. Our model was independently tested for 2 popular websites about fibromyalgia. People were randomly assigned to one of these websites. Fibromyalgia was chosen because this is one of the health conditions that is most often searched for online in the Netherlands. One site was non-profit, hosted by the Dutch Association of General Practitioners and the other one was a professional, but commercial website. After visiting the site, people completed a questionnaire which included measures for involvement, cognitive load, perceived vividness, information recall, and health literacy using the Short Assessment of Health Literacy in Dutch (SAHL-D). Also demographics and control variables such as prior knowledge of fibromyalgia and previous visits of the website were measured.

Results

The data of our study were collected in the spring of 2015 and will be analyzed this summer. If this abstract is accepted, the results will be presented at the conference.

Conclusion

The results of our study can be used to develop health information that better suits the needs of people with limited health literacy. When the mechanisms are known, messages can be developed that either enhance involvement, require less cognitive load, or are more vivid to this group. As a result, the information will be better processed and recalled, which makes the information more useful in peoples' daily lives.

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3c. iv) Literacy events and practices in a cardiovascular context

With active verbs such as access, appraise, understand, apply, make decisions and take decisions (WHO) used in leading definitions of health literacy, the onus ostensibly rests with the patient as the actor. Nutbeam (2008) conceptualised the progression of health literacy by categorizing it into three levels which "progressively reflect greater autonomy and personal empowerment in decision-making" (p. 2075). These three levels he categorised as functional health literacy, interactive health literacy and critical health literacy. Kickbusch and Marg (2008), Manganello (2008), and Sykes et al., (2013) also positioned critical health literacy as a higher order stage in a health literacy trajectory. Freebody and Freiberg's (1999) response to Nutbeam's (1999) health literacy levels approach (functional, interactive

and critical) called for an event-centred approach to health literacy research where the literacy event is the key driver rather than the individual engaged in the event. Literacy studies focus on literacy in practice, emphasising the relational meanings of text in sociocultural contexts as opposed to views of textual meaning solely as arising from an individual's set of cognitive strategies. This paper reports on research which sought to capture the literacy events and practices as they occurred in a cardiovascular service of a public hospital in New Zealand. What text is actually used with patients, what are the features of those texts and the contexts those texts are used in, how are the texts mediated and who is mediating those texts? A serialised sample of eleven patients was shadowed, as part of the ethnographic approach taken to data collection. Patients joined the study soon after entry into the hospital, remaining through to outpatient rehabilitation and beyond. Written patient information texts, transcripts of patient and health professional interaction with texts, conversations, photographs, structured interviews with patients using the Health Literacy Management Survey (Jordan 2009), and reflections formed the datasets. Data analysis used thematic, discourse and linguistic analysis tools and approaches. The complexity of the notion of access in health literacy was fore-grounded in the study's findings. Access was seen to incorporate the physical aspects of access; the role of text mediation; the discourse characteristics of patient information texts and patient responses to text; the knowledge that was codified giving patients access to it, and what remained uncoded; and patient agency (Ahearn, 2011). Literacy events were not abundant. The findings have implications for the conceptualisation of health literacy as well as for approaches to evaluating access.

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3c. v) Everyday health information literacy of older people in Finland - The GASEL project

Introduction

The Medical Library Association has defined health information literacy (HIL) as "the set of abilities needed to: recognize a health information need; identify likely information sources and use them to retrieve relevant information; assess the quality of the information and its applicability to a specific situation; and analyze, understand, and use the information to make good health decisions." The concept of everyday information literacy (EHIL) refers to competencies to find, evaluate and understand health-related information in everyday life situations. It can be considered as information literacy in a health context or as a combination of the concepts of health literacy and information literacy. Raimo Niemelä and his colleagues have designed a practical 10-item screening tool aiming at identifying differences in individuals' EHIL. Previous studies indicate differences in individual's HIL based on e.g., age, education, economic situation and health status. However, research within this area, and especially among older people, is still scarce.



Methods

Multidisciplinary GASEL (Gamified Services for Elderly) project, funded by the Finnish Funding Agency for Innovation for 2014-2015, examines tailored and gamified remote services in promoting wellbeing and health of older individuals. Information about the target group was collected with a paper questionnaire posted in November 2014 to a random sample of 1500 subjects 65 to 105 years old and living in City of Oulu region. Questionnaire was 17 pages long with variety of themes, including a shorter 4-item version of the EHIL scale. Differences of age groups (under 70, 70-79, 80 or over) and gender are investigated statistically with Pearson's chi squared test. The response rate was 62.2 percent (n= 933) with 42.7% were men and 56.9% women. The age of respondents was from 66 to 97 years with average age of 74.4. Almost half used Internet daily or almost daily.

Results

Most (67.1%) of the elderly strongly or moderately agreed with the statement "I like to get health information from a variety of sources". However, the respondents in younger age group were more likely to disagree. Quite a many were unsure (39.5%) or disagreed (32.1%) with the statement "it is easy to assess the reliability of health information from the Internet". Younger respondents were more likely to disagree. Terms and sentences of health information was considered difficult to understand by 57.9% of the respondents. The oldest age group was clearly more likely to strongly agree and women were slightly more likely to disagree. From the respondents 59.6% (and especially the oldest) agreed with the statement "it is difficult to know who to believe in health issues".

Conclusions

In general, older people find it difficult to assess the reliability of health information from the Internet and to understand terms and sentences used. It is also difficult to know who to believe. Above all these problems apply those 80 years or older. Differences observed could be used as a basis of health information tailoring and counselling. The EHIL screening tool may reflect confidence rather than actual skills, but even the 4-item scale can be beneficial for screening differences between older individuals.

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3c. vi) Put two (and two) together to make the most of health behavior and health literacy

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Introduction

Although many people know that physical activity and healthy nutrition contribute to health they fail to translate their knowledge and intentions into action. This can be explained by deficits in health literacy. The present study examines the complex interplay of intention, intergoal facilitation, planning and self-regulation in facilitating physical activity and healthy nutrition.

Methods

In a prospective online study, intentions were assessed at baseline (Time 1), intergoal facilitation and planning at 4-week follow-up (Time 2), self-regulation, physical activity and healthy nutrition at 6-month follow-up (Time 3). A path analysis was run to gain insight into psychological mechanisms of health literacy that contribute to lifestyle change.

Results

Intergoal facilitation (Time 2), planning (Time 2) and self-regulation (Time 3) mediated the link from intention (Time 1) to physical activity and healthy nutrition (Time 3); the specific indirect effects were significant.

Conclusions

Findings suggest that intergoal facilitation, planning and self-regulation can bridge the intention-behavior gap. Cross-behavioral mechanisms might facilitate lifestyle change in several domains. Health literacy interventions should target those mechanisms in vulnerable individuals and make use of eHealth applications to appeal to a large audience in health behavior change.

Authors: Ms Juliane Paech (Jacobs University Bremen), Prof Dr. Sonia Lippke (Jacobs University Bremen)

3c. vii) Issues of Health Literacy Regarding Deceased Organ Donation

Introduction

Transplantation is one of modern medicine's greatest achievements. However, one of the major world-wide, long-lasting challenges, which healthcare professionals and social scientists have to deal with, is the shortage of available organs. Although shortage of organs is a serious problem, it does not reflect a negative attitude of the public towards organ donation. While health literacy of transplant patients is a topic which receives attention, health literacy regarding deceased organ donation is a less examined issue. A project in the UK, Spain and the Netherlands examines peoples' views on deceased organ donation, as well as networks and patterns of information seeking and sharing about this topic.

Methods

The study runs a survey among lay people in three European countries, the UK, Spain and the Netherlands. The groups of people taking part are university students, members of Patients' Associations, and administrative personnel at



hospitals. The survey explores participants' views on deceased organ donation, of issues which often cause confusion to people and may influence their decisions, about the communication pathways the participants potentially use to share their views and decisions. Additionally, focus groups run in the three participating countries give the participants an opportunity to further explain their reasoning and argumentation of their opinions and how they feel about deceased organ donation.

Results

The participation of three European countries offers a cross-cultural view of possible similarities and differences among countries. This multinational dimension is needed as nowadays more and more people move across Europe and the population of countries rapidly change and together with the mobility of people there is the mobility of people's ideas. Mapping health literacy thinking and behaviour patterns across European countries, offers an opportunity to have a clearer picture in management and policy planning related to deceased organ donation.

Conclusions

This research project discusses communication and intercultural dimensions in health literacy about deceased organ donation. Results of this study are directly related to the issue of a common agenda of European health literacy policy related to deceased organ donation.

Authors: Dr Maria Theodosopoulou (Imperial College), Prof Vassilios Papalois (Imperial College Health Care NHS Trust)

3c. viii) New media as a bridge for health-centered interprofessional lifelong learning

Introduction

Educational and healthcare system are powerful systems that have only been connected insufficiently and are acting without coordination to each other. In the face of challenges such as demographic change, an increasing number of chronic diseases, regional healthcare disparities as well as increasing health-economical problems, the calls for new and need-based concepts are growing ever louder.

On this basis a new health educational policy has been requested which bring together education and health as learning systems. Lifelong learning thereby represents a decisive factor of success in a professional context (medical education) as well as in the development of individual health literacy (health promotion). Aside from these formal representatives of literacy and health, non-formal and informal learning scenarios play a particularly important role in the development of health literacy. Therefore these concepts have to be perceived as relevant and should be integrated into a coherent health educational concept.

Methodology

On the basis of available literature a concept for a consistent learning in all stages of life is developed, which connects the individual stages of health-

centered lifelong learning with different learning scenarios in a coherent manner. Thereby, it stimulates connections and interactions between the systems and its players .

Results and conclusions

Coherent concepts for the integration of formal, non-formal and informal teaching and learning approaches in the context of health have been missing so far. Additionally, knowledge and competences gained in the life of addressed target groups are hardly connected. Instead, they stand next to each other. The example of health literacy with focus on „Sun and Skin“ shows the possibilities of a practical, sequential learning approach to developing individual health competences in life. Furthermore, the use of new media as an option to increase the scope and the networking of the players and to reduce regional disparities (urban/rural regions) in health-literacy is demonstrated.

Authors: Prof Nikolaus Stosiek (Otto-Friedrich-University Bamberg Department of general pedagogics)

3c. ix) Information Communication Technologies (ICT) to the service of health literacy - e-training for better nutrition among older adults

Introduction

ICT applications are increasingly being used to provide health related information and assist in the management of health problems among older adults. We report on the development of an internet based program for the promotion of healthy nutrition and physical activity among older adults - E-Training for Better Nutrition. Development was guided by the results of an assessment of existing ICT applications mainly from the private sector conducted within the framework of the IROHLA project - Health Literacy Guidelines for Policy and Practice.

Methods

An assessment of ICT applications from the private sector was conducted through a three stage methodology which included a standardised search of databases and the internet through specific search engines with predetermined search words in Greek, German, Spanish, Dutch, Italian, Polish, Finnish, Swedish and French. The second and third stage involved an assessment of promising interventions based on a purpose made evaluation tool. The results of this process were fed into the development of the e-training for nutrition application.

Results

We identified a large number of commercial ICT applications which did not pass assessment due to the absence of systematic evaluation. Only 14 interventions were included in the list of promising interventions mainly due to their innovative nature and potential benefits rather than rigorous scientific evaluation. Promising interventions stressed the importance of simple and to the point messages, large texting, adequate colouring and emphasised the importance of offering assistance during use and the ability to self-monitor progress. Emphasis was placed on the "look of the application" and the use of



images of health and vitality avoiding the overemphasis of older age and images of illness and disability. Findings guided us into developing a user friendly internet based application which is based on setting and meeting personal targets which can be self-monitored. It is currently being piloted among 20 senior citizens with the aim of improving nutrition and physical activity related knowledge and behaviour as well as awareness and use of ICT applications. Assessment of the E-training for nutrition application is conducted through pre - post questionnaires monitoring nutrition and physical activity related knowledge and behaviour as well as usability of the application.

Conclusions

Preliminary results show good progress and improvement of personal goals. Assistance in using the application continues to emerge as an important usability factor.

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3c. x) Diet Apps and Physical Activity Apps: Perceived Effectiveness by App Users

Introduction

Despite thousands of diet and physical activity apps for use on smartphones, tablets and computers, effectiveness of using these apps has not been examined so far. The aim of this study is to examine the perceived effectiveness of using these apps from user's point of view.

Methods

This study consisted of two parts. In part1, three focus group discussions were conducted with 15 app users and 8 non-users. Participants discussed motivations, experiences, adherence, effectiveness and opinions toward diet and physical activity apps. Analyzing the focus groups resulted in a number of key topics, which were transformed into survey questions. In part2, a survey was conducted with 186 diet app users and 192 physical activity app users. The survey identified perceived effectiveness of using these apps by app users. Users were divided into two groups: current users and previous users. Current users were users who have used an app during the last 12 months (from April 2014 to April 2015), and are still using it. Previous users were users who used an app in the course of the last 12 months, but were not using it any longer.

Results

Most of the diet app users had a goal to track their food intake (66%), and 21% of users wanted to use the apps for healthier eating. There were 72% of the users considered that diet apps effectively assisted them to eat more fruits and vegetables, 63% said apps assisted them to eat less fast food, 57% said apps assisted them to drink less sweetened beverages, and 63% said apps assisted

them to choose healthier foods. Current and previous users did not differ in perceived effectiveness of using diet apps.

Most physical activity app users had a goal to track activity (40%) or to be more active (40%). There were 67% of the users considered that physical activity apps effectively assisted them to increase duration of exercise, 75% said apps assisted them to increase frequency, 72% said apps assisted them to increase intensity, and 55% said apps assisted them to increase diversity of their activities. Current users found that physical activity apps effectively assisted them in exercising more frequently ($p=0.008$) and in increasing exercise intensity ($p=0.003$) significantly more than previous users.

Conclusions

App users generally experienced diet and physical activity apps as useful in promoting healthy eating and physical activity. Further studies can focus on examining actual food consumption changes and physical activity behavior changes as a result from using apps.

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3c. xi) The older patient's perspective on health literacy: focus group discussions regarding doctor-patient communication in the Netherlands and Hungary

Introduction

Older adults are frequently affected by the negative consequences of limited health literacy. Doctor-patient communication is an essential element within health literacy research. However, the patient perspective on doctor-patient communication is underrepresented in most research. The General Practitioner (GP) is an important resource for older people and often the first professional health care provider they consult for their health problems. Our aim was therefore to study the older patient's perspective on doctor-patient communication to be able to identify their barriers to participation and communication during primary care consultations. This will aid in the appropriate development of patient-centered interventions to increase interactional and critical health literacy of older adults.

Methods

We therefore conducted focus group discussions (in the Netherlands and in Hungary) with older adults having limited or marginal health literacy to elicit their views on needs and barriers in communication with their GP. Topics in the interviews included experienced and possible barriers, perceptions of misunderstanding, question asking, consult preparation and decision making and patient's needs and preferences. Responses were transcribed and structured based on the Endpoints in Medical Communication Framework.



Results: The most salient needs and barriers are identified according to five dimensions: (1) the affective dimension, (2) providing information, (3) gathering information, (4) decision making and (5) being supported in disease- and treatment-related behavior. Patients' needs include both task-oriented and affective components. In the Netherlands as well as in Hungary, the importance of a good, trustful doctor-patient relationship is stressed. Barriers to interactional health literacy include the doctor's availability (lack of time), patients' stress and emotions, absence of trust, insufficient self-efficacy and asymmetry in expertise and knowledge.

Conclusions

The identified barriers will aid in developing patient-centered interventions to increase interactional health literacy and communicative self-efficacy of older patients in communicating with their GP.

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3c. xii) Technological literacy as added value to traditional respiratory rehabilitation in patients with Chronic Obstructive Pulmonary Disease

Introduction

Chronic Obstructive Pulmonary Disease (COPD) is one of the most frequent disease in the elderly, with a major burden on the quality of life and socio-economic status of patients and families. E-health interventions in this field should aim at better managing the chronic condition and developing appropriate systems for the older patients, assessing their expectations, needs and acceptance. We report on the results of a pilot study conducted within the context of the IROHLA project with regard to e-health and with the aim to analyze the impact on the health literacy of a multimedia platform use in patients affected by COPD. The platform includes three main modules - 1. Education, related to the knowledge and management of the disease; 2. Experience for stimulating the patient's cognitive level through logic games and skill; 3. Physiokinesis and respiratory training modules - and the use of lay media content service. The usability was also analyzed as antecedent of a high technological acceptance of the platform and driver of the technological literacy improvement.

Methods

The study was designed as a pre-post study to evaluate the degree of competence achieved on the health management and knowledge acquisition, through the use of a non-conventional therapy based on technology, and developed in four different phases: i) Recruitment and inclusion/exclusion criteria assessment; ii) Preliminary evaluation with a questionnaire fulfilled by participants; iii) Service evaluation during the platform use, after adequate training; iv) Final evaluation of information related to usability and positive pitfalls on own health management.

Results

Thirty-five stable COPD patients, aged 60-90 years, have been selected among the patients of the INRCA Respiratory Rehabilitation Unit to test the platform. Given the purpose of the analysis and the sample size available, a combined strategy for both quantitative and qualitative assessment has been adopted to collect data on patient characteristics, preferences and opinions, including:

- i) Preliminary evaluation: selected questions of TOPICS-CEP and Multidimensional screening tool on functional health literacy (MSFHL); Screening Questions for Limited Health Literacy and All Aspects of Health Literacy Scale (AAHLS) to assess the health literacy; ad-hoc questions developed to evaluate the Attitude towards technology; the IRHOLA Needs Assessment Questionnaire was also used; selected questions from Goal Attainment Scaling and TOPICS-CEP were used to assess the Intervention goal setting;
- ii) Service evaluation: the assessment was conducted through Video Interaction Analysis (VIA), based on recordings made by the camera during user interaction with the platform, to allow the reliable capturing of users' gestures, statements and expressions;
- iii) Final evaluation: Perceived Health Web Site Usability Questionnaire (PHWSUQ) for Older Adults and Psychological Impact of Assistive Devices Scale to assess the usability; selected questions from the evaluative questionnaire developed for IRHOLA WG2 for perceived health literacy improvement; selected questions from Goal Attainment Scaling were also used.

Conclusions

Due to the consistent corpus of data collected, the analysis of the results is still running. The positive reaction of the users to the opportunity of using the system for their daily rehabilitation gives the basis for promising insights with the pilot.

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3c. xiii) How do healthcare user and provider evaluate and understand informed consent forms? A descriptive study

Introduction

Much of the written material related to informed consent is too difficult for health care users to understand, mainly for those with limited health literacy. The aim of the study is to examine if health care users and professionals evaluate in the same way the appropriateness of the informed consent forms taking into consideration the health literacy of the individuals to whom they are addressed.



Methods

Participants were individuals asking for a HIV or other sexually transmitted diseases (HIV-STDs) test at the Lausanne University Hospital, Switzerland, from 12.9.2014 to 11.12.2014 and undergraduate medical students, postgraduate nursing students, registered nurses and physicians. Health care users' recruitment took place at 3 randomly selected days per week. The participants evaluated their health literacy (HLEU-Q16) and the readability, understandability and actionability of the informed consent form for HIV-STDs tests. Convenience sampling was used for the recruitment of health care professionals and students who evaluated the understandability and actionability of the informed consent form (PEMAT-p). A nurse researcher evaluated its readability (SMOG/SOL formulas). Descriptive statistics and ICC were calculated to examine the agreement within and across groups.

Results

We enrolled 184 health care users (response rate 69.96%) who were mainly young (median 31.8, IQR= 24.8-37.6), men (58.2%), Swiss citizens (77.2%) and of higher educational level (84.8%). The majority of them had sufficient/excellent (65.8%) health literacy, 4.9% of them had inadequate and 29.3% had problematic health literacy. We also enrolled 35 postgraduate nursing students, 15 medical students and 4 experts (2 registered nurses and 2 physicians). According to health care professionals and students the understandability (median: 83, IQR: 75-83) and the actionability (median: 80, IQR: 60-80) of the informed consent form are adequate but improvable (excellent is 100). The agreement within a group of health care professionals or students was not stronger compared to the agreement across different groups both for understandability and actionability. The readability of the informed consent form should be improved (11th grade). According to health care users the readability (median 100, IQR 100-100) and understandability (median 100, IQR 90-100) of the informed consent form are almost excellent, while its actionability (median 90, IQR 60-100) should be improved. Patients' health literacy was found to be significantly associated with actionability, only ($p < 0.01$).

Conclusions

The results of this study indicate that health care users do not evaluate the informed consent forms in the same way as health care professionals do. The appropriateness of an informed consent form is strongly related to the characteristics of the addressee, such as their health literacy. So, the informed consent forms may have to be evaluated by both health professionals and health care users. Evaluation of the informed consent forms using different criteria such as readability, understandability and actionability is recommended in order to understand how they could better fit to the health care users' needs.

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3c. xiv) Going beyond health literacy: Health care users' self efficacy and informed consent

Introduction

Health literacy and self-efficacy in understanding disclosure and informed consent documents have been found to be associated with comprehension of informed consent forms and with evaluation of their adequacy. Yet, such findings have to be further examined in different clinical contexts and practice. The aim of this study was to examine if self-efficacy in understanding disclosure and consent documents mediates the association between health literacy and the evaluation of the informed consent form in individuals undergoing HIV or other sexually transmitted diseases (HIV-STDs) tests.

Methods

Eligible participants were French-speaking individuals, without cognitive impairment, who asked for a HIV-STDs test at the Lausanne University Hospital, Switzerland, between 12.9.2014 and 11.12.2014. Recruitment took place at 3 randomly selected days per week. Following the HIV-STDs consultation all eligible participants were asked to evaluate their health literacy (HLEU-Q16), their self-efficacy in understanding disclosure and consent documents and the readability, understandability and actionability of the informed consent form for HIV-STDs testing. Apart from descriptive analyses, we conducted mediation analyses using logistic regression on dichotomized outcome (readability, understandability and actionability) and mediator (self-efficacy) variables. Confidence intervals for the indirect effects were estimated using bootstrap on 5000 replications.

Results

A total of 184 individuals were enrolled in the study (response rate: 69.96%). Participants were mainly young (median 31.8, IQR= 24.8-37.6), men (58.2%), Swiss citizens (77.2%) and high school graduates (84.8%). Health literacy was sufficient/excellent in 65.8% of them, inadequate in 4.9% and problematic in 29.3% of them. Results indicate that self-efficacy significantly ($p < 0.01$) mediated the association between health literacy and readability, understandability and actionability. The directions of the path coefficients indicate that lower health literacy predicted lower self-efficacy, which predicted



lower evaluation of the readability, understandability and actionability of the informed consent form. We found that the total indirect effect of health literacy on readability was 0.10 (SE=0.05, 95% CI=0.031-0.221), on understandability 0.07 (SE=0.03, 95% CI=0.025-0.153) and on actionability 0.08 (SE=0.03, 95% CI=0.029-0.161).

Conclusions

The results strengthen the evidence that self-efficacy acts as a moderator between health literacy and the evaluation of the informed consent forms. When asking patients to evaluate informed consent forms, together with their health literacy, their self-efficacy in understanding such documents should be taken into consideration.

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3.d Understanding Health Literacy

3.d i) Sources of Health Information in a Sample of Adults in Athens, Greece

The Greek term for health literacy (translated as “Εγγραματοσύνη Υγείας”) was coined by a Greek national advisory panel during the creation of the HLS-EU and this is a relatively new research area for Greece (Kondilis, Magoulas, Ioannidi, & Agrafiotis, 2012). Recent Health Literacy Survey of the European Union (HLS-EU) findings (2015) indicate a tendency for Greeks to fall in the middle range of being fairly “health literate” overall when compared to the rest of the European sample. However due to the current economic crisis, people in Greece are making efforts to finance their debts and are losing access to care and preventive services, have several higher health risks, some lose their lives to ill health or suicide (Kentikelenis, Karanikolos, Papanicolas, Basu, McKee, & Stuckler, 2011). In addition Greek researchers have documented an increase in private healthcare expenditures since the mid 1990’s (Tountas, Karnaki, Pavi, & Souliotis, 2005) despite governmental attempts to minimize the private health industry’s role through legislation (Tountas: Economou, 2010). This may reflect some aspect of trust in private practice doctors, as patients are challenged by long waits or not effectively accessing the public healthcare system.

A questionnaire exploring sources of health information and interaction with the physician or other health care provider related to health literacy was designed by the research team. The original survey was distributed to a convenience sample of 100 adults in both private and public settings in the year 2007, and a slightly modified survey distributed a group of approximately 100 adults in private settings in the year 2015 as post economic crisis data. Several patients will be questioned about related issues of trust regarding these sources of information in individual interviews. The original findings indicate that the majority of patients focus on their doctor and pharmacist as the major source of health information, and more concrete data comparisons will be made in the upcoming months.

Authors: Barbara Kondilis

3.d ii) The association between health literacy and self-management abilities for well-being in adults aged 75 and older, and its modifiers

Background

Low health literacy is an important predictor of poor health outcomes, including well-being, among older adults. A reason may be that low health literacy decreases older adults’ self-management abilities for well-being, but this has not yet been studied. In this study, we assessed the association between health literacy and these self-management abilities among adults aged 75 and older, and the impact of demographic factors, socioeconomic factors, and health status on this association.

Methods

We used data of 1052 community-living older adults above the age of 75, gathered for a previously conducted randomized controlled trial on Embrace, an integrated elderly care model. These data pertained to health literacy, self-management abilities, demographic background, socioeconomic situation, and health status. Health literacy was measured by validated screening questions. Self-management abilities were measured by the Self-Management Ability Scale.

Results

After adjustment for confounders, self-management abilities were poorer in older adults with low health literacy ($\beta = .34, p < .001$). This effect was stronger in high-educated older adults than in low-educated older adults. Sex, age, living situation, income, presence of chronic illness, and mental health status did not modify the association between health literacy and self-management abilities. Lower health literacy was significantly associated with all domains of self-management abilities.

Conclusions

We found that low health literacy is associated with poor self-management abilities for well-being across a wide range of older adults. This indicates a rather universal effect of health literacy on self-management abilities. Low health literacy was more strongly associated with poor self-management abilities in people with high educational levels, indicating that high-educated



older adults with low health literacy are a vulnerable group for poor self-management abilities. Early recognition of low health literacy among adults of 75 years and older and interventions to improve health literacy might be very beneficial for older adults.

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3.d iii) The roles of loneliness and social support in the association between health literacy and health behaviour in older adults

Background

Low levels of health literacy have been shown to be associated with several adverse health outcomes among older adults. This could be the result of associations between health literacy and more general health behaviours, but these associations have not received much attention in research. Also, the role of loneliness and social support is still unclear. Loneliness and social support might play an important role in the associations between health literacy and health behaviours, for example by buffering or strengthening the negative impacts that low health literacy may have on these behaviours. The first objective of this study is therefore to assess the associations between health literacy and a wide range of health behaviours (smoking status, fruit consumption, vegetable consumption, physical activity, alcohol consumption, breakfast habits, and soft drink consumption) among adults above the age of 65. The second objective is to assess the degree to which loneliness and social support moderate these associations.

Methods

We will analyse previously collected data from the LifeLines Cohort Study, a multi-disciplinary prospective population-based cohort study in which data of 167,729 people of all ages living in the North of the Netherlands are collected. Data of 3,278 participants above the age of 65 are eligible for inclusion in our analyses. Data on health literacy, loneliness, social support, and health behaviours will be used. Health literacy was measured by validated screening questions, loneliness was measured with the social domain of the Groningen Frailty Index, social support was measured with various items of the social domain of the INTERMED questionnaire. Health behaviours were assessed with various self-report instruments.

Results & Conclusions

We will report on the associations between health literacy and a number of health behaviours (smoking status, fruit consumption, vegetable consumption, physical activity, alcohol consumption, breakfast habits, and soft drink consumption) among adults above the age of 65. Additionally, we will assess whether loneliness and social support moderate these associations. Results and conclusions on both objectives will be available and presented at the time of the European Health Literacy Conference 2015.

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3.d iv) Supporting Critical Health Literacy of older adults through Community-Based Participatory Action initiatives: A Qualitative Systematic Review and Evidence Synthesis

Introduction

By focusing on 'understanding and being able to judge, sift and use health information provided in the context of one's life', Critical Health Literacy (CHL) supports older adults with making informed health decisions and taking actions. Community-Based Participatory Action (CBPA) approaches to Health Literacy (HL) initiatives have the potential to support CHL of older adults and empower individuals and communities. CBPA initiatives offer older adults an opportunity for learning and co-learning about health and social issues by offering a space for dialogue with various community actors, such as other community members, professionals and policy makers. Concurrently the CBPA approach opens up for existing socio-cultural barriers to developing CHL and culturally tailored interventions. This qualitative systematic review and data synthesis is a unique study identifying CBPA initiatives that support CHL of older adults and assessing how they work to explore how the CHL concept is applied in communities.

Methods

A search of electronic databases was undertaken, including Pubmed, Embase, Web of Knowledge, PsycINFO, and CINAHL. Besides, WHO's WHOLIS database, reference lists, and results of systematic reviews conducted within the FP7 IROHLA project were searched. Search strings encompassed terms related to 'CBPA initiatives' and 'older adults'. Two reviewers independently assessed in- and exclusion criteria, evaluating CHL as initiatives' goal. The quality of studies was judged for methodological elements (aim and methodology) as well as CBPA elements (nature of community involvement and evidence of CBPA elements). A total quality grade was given to each study.

Preliminary results

In total 2,255 articles were identified and screened for title and abstract. This resulted in the exclusion of 2,193 articles; the quality of the remaining 62 studies was assessed, resulting in 21 articles for data synthesis. The initiatives widely varied in inquiry interest (e.g. developing culturally tailored health messages or identifying perceived health needs) and qualitative methods (e.g. focus group discussions or mixed methods) used. Besides, the way in which community members participated in the different phases of the initiatives widely varied between studies. Following the qualitative research cycle of Hennink et al, 4 themes were identified as important clusters of CHL elements: 1) understanding: how to search for health information, use tools, navigate the health system and social determinants of health; 2) individual and collective learning; 3) using knowledge and skills to: use sources to find



health information, interact with health professionals, make informed health decisions and take health and social actions; and 4) social, cultural, economic and environmental aspects influencing CHL at all levels of society, including: individual; interpersonal or social environment; organizational and physical environment; community; policy and national (health system) level.

Conclusions

With this qualitative systematic review and data synthesis we further explored the complex concept of CHL as well as showed the potential of CBPA approaches to support CHL of older adults. This review gives insight in how CHL is approached in different ways depending on the socio-cultural context in which an intervention takes place and how participation of community members in CBPA initiatives contributes to critical health literate communities.

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3.d v) Elucidating the Pathway that links Health Literacy to Health Disparities - A Systematic Review

Introduction

Health literacy is commonly associated with many of the antecedents of health disparities. Yet the precise nature of the relationship between health literacy and disparities remains unclear.

Adding to Berkman and colleagues' work (2011) a systematic review was conducted with the aim to contribute to a better theoretical understanding on how health literacy potentially contributes to health disparities by including a systematic definition of what health disparities should entail.

Methods

Five databases, including PubMed/MEDLINE, CINAHL and ERIC were searched for peer-reviewed studies using strict inclusion criteria. Publications were included in the review when they (1) included a valid measure of health literacy, (2) explicitly conceived a health disparity as related to a social disparity, such as race, ethnicity, culture or gender and (3) when results were presented by comparing two or more groups afflicted by a social disparity investigating the effect of health literacy on health outcomes.

Two independent reviewers screened abstracts for inclusion. Subsequently reviewers evaluated full texts for inclusion and abstracted relevant information. Quality assessments were conducted.

Findings were ordered according to the disparities identified and the role of health literacy in explaining them. Given that study characteristics varied with regard to health literacy measures, health outcomes, sample sizes and characteristics, it was not deemed feasible to carry out a meta-analysis. Therefore a narrative analysis was conducted.

Results

After the removal of duplicates, 5766 abstracts were reviewed and 92 articles were included for full revision. 36 articles were included in the final synthesis. Most studies had been conducted in the US and focused on racial/ethnic and educational differences and its link to disparities in self-reported health.

We found some evidence on the mediating function of health literacy on self-rated health status across racial/ethnic and educational disparities, as well as on its potential effect on reducing racial/ethnic disparities in medication adherence and understanding of its intake. However, studies largely varied with regard to the health disparity/outcome under investigation and the health literacy assessments used.

From a conceptual perspective, studies often neglected to sufficiently describe the disparity under investigation. General assumptions were made on how health literacy should contribute to disparities but the disparity as such was often only vaguely described. Only few studies tested for predefined hypotheses, in which the possible pathways were described. A couple of studies made assumptions about its mediator or moderator role, testing for it by using appropriate analysis techniques.

Conclusions

Even though largely assumed, evidence on the exact nature of the relationship between health literacy and health disparities remains still scarce. Part of the explanation may lie in the fact that definitions on health disparities and literacy are often not specific enough, which may influence the conceptualization of potential pathways linking health literacy to disparities.

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3.e Health Literate Organisations

3.e i) The role of managers in providing a health literate workplace - a mixed methods study

Background

The workplace is an important arena for prevention and health promotion initiatives. One way for the workplace to facilitate and support employee health is by providing an environment that enhances the employees' health literacy, i.e. a health literate workplace. A health literate workplace entails possibilities for communication between employee and management about health issues and possibilities for relevant action. This means that managers receive information from employees about their current health issues and needs, and are enabled to react and adjust



workplace initiatives accordingly. The managers may further support employee action by providing information about possibilities for prevention and handling of their specific health issues at the workplace (e.g. possibilities for changes in task assignments, adjustment of breaks and ergonomic guidance). In a workplace context the management plays an important role in providing a setting for trustful communication and possibility for action according to employee needs. However little is known about managers' awareness about employee health issues, their conception of employee prevention and handling of health issues, and managers' perception of their own role in providing possibilities for communication and action. Therefore this study aims to investigate 1) To what extent are managers aware of health issues among their employees? 2) How does management conceive employee prevention and handling of health issues? 3) How does management perceive their role in providing possibilities for communication and action in relation to employee health issues?

Method

Seven workplaces are included in this mixed methods study. Quantitative data from ~500 employees and ~35 managers are collected using questionnaires to measure and compare the employee health issues and the management perception of employee health (question 1). Semi structured focus group interviews with all managers from the nursing homes will be analyzed using an explorative approach where each nursing home will represent a case, describing the key elements of each case related to the managers reflections about employee prevention and handling of health issues (question 2) and their perception of their own role in providing possibilities for communication and action (question 3).

Results

The preliminary results of the quantitative data analysis indicate considerable discrepancies between the employees' report of their health issues and managers' perception of employee health, indicating lack of management awareness about employee health issues and needs. This could imply insufficient adjustment of - and information about - possibilities at the workplace to employees, in relation to their specific health issues and needs. The results of the qualitative data analysis will provide a more elaborate understanding of these quantitative findings as well as insight into managers' conception of employee prevention and handling of health issues and the managers' role. Results will be ready for presentation at the 2015 Health Literacy Conference.

Discussion

These findings shed light on important issues which need to be addressed when building a health literate workplace. Therefore it is highly relevant to uncover the managers' awareness of employee health as well as their perception of their own role in providing an environment that supports and facilitates employee health literacy.

Authors: Ms Anne (Konring Larsen), Signe (Falkenstrom), Morten (Hulvej Rod), Marie (Birk Jørgensen)

3.e ii) Community pharmacy staff's efforts to counsel patients with limited health literacy skills

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Introduction

Misunderstanding of information due to limited health literacy might be an important reason for incorrect medication use. In the community pharmacy, pharmacy staff has opportunities to inform patients about their medication regimen and support them in using their medicines properly. However, little is known on how pharmacy staff members address problems related to limited health literacy. Therefore, the objective of this study was to explore to what extent community pharmacy staff identifies patients with limited health literacy and how they counsel these patients.

Methods

Semi-structured interviews were carried out with pharmacy staff in 27 community pharmacies in the Netherlands. Questions concerned their experiences with patients with limited health literacy, their communication and their views about the interventions to improve medication use in patients with limited health literacy.

Results

In total, 74 interviews were included for analysis. Sixty-eight interviewees (92%) mentioned to (sometimes) recognize patients with limited health literacy during their work. Most interviewees mentioned they have a gut feeling that a patient has limited skills. Furthermore, they identify patients based on their (non-native) background and characteristics such as hearing disabilities or mental (health) problems. Suggested strategies to improve medication use included tailored education and information provision, intensive support, communication with a patient's contact person or use of tools such as a multidose drug dispensing. Pharmacy staff indicated they have sufficient tools to help patients with limited literacy skills, however some barriers were mentioned.

Conclusion

The majority of pharmacy staff indicates to recognize patients with limited health literacy and most of them think they are well equipped to provide good care to these patients by using tailored education and adjusted communication style, although lack of time is a barrier for using tailored interventions and counseling.

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3.f Disease Management and Health Literacy

3.f.i) Cultural considerations in health literacy for empowerment through diabetes self-management programs - a mixed methods approach

Introduction

Cultural competence in the context of health literacy includes: a. cultural sensitivity to values, beliefs, and lifestyles that stem from one's culture; b. cultural knowledge, including cultural worldviews; c. cultural skills to collect verbal and physical relevant cultural data on health histories and presenting problems; d. cultural encounter/cross-cultural interactions. Healthy lifestyles, critical for chronic disease prevention and treatment, are highly dependent on cultural context, mainly for cultures in transition from traditional to western. Diabetes, reaching epidemic proportions globally reflects the result of this transition, posing challenges for culturally appropriate interventions, taking into account health literacy needs of the individual, family and community. Older populations, with higher levels of low health literacy, encounter greatest challenges in self-care. The health systems in countries such as Israel and South Africa have recognized these needs as a basis for effective intervention, applying both qualitative and quantitative methodologies.

Methods

Cultural competency principles were applied to health literacy in a national initiative for improving diabetes control among Arab and Ethiopian populations in Israel. Focus groups were held in a variety of communities to hear the people's voices to understand perceived sources of reliable and relevant information for behavior change and self-management. Barriers to applying treatment recommendations were analyzed for action planning. Group interventions based on a multi-disciplinary team approach were implemented using culturally adapted tools for promoting empowerment in the community. The groups, consisting of 6-8 sessions were conducted by health professionals from the community primary care clinics, in the language appropriate for each community. The program was evaluated for impact and outcome, via telephone interviews among a representative sample of the participants examining: change in health behavior (Physical activity, nutrition, foot care, medication adherence) attitudes toward diabetes, satisfaction with the program, and diabetes control measured by change in hemoglobin A1C.

Results

With over 2000 participants annually, evaluation showed that the program significantly contributed to reported behaviour change, and very high satisfaction with the contribution of the program to promoting health lifestyle ($p < 0.01$) and self-care empowerment. Diabetes control levels showed significant improvement ($p < 0.001$), not observed in a comparison population. Action for reinforcement was recommended to sustain achievements on both individual and community levels.

Conclusions

The primary care clinic was noted as an appropriate setting for health promotion activity, particularly regarding chronic disease treatment and prevention. Individual lifestyle counselling was recommended as part of the community initiative as well as continued interest in in-depth behavior change workshops. Further quantitative and qualitative research is needed to develop evidence-based, culturally congruent interventions to improve health literacy among older adults, especially when coping with chronic health conditions.

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3.f.ii) Strategies to support self-management for patients with limited health literacy: perceptions of patients

Introduction

Patients with Limited Health Literacy (LHL) tend to be less likely to successfully (self-)manage their condition, resulting in preventable health damage and loss of life years. Health care professionals have difficulties recognizing and dealing with LHL and systematically using tools to deal with this complicated problem. The aim of our study was to (a) explore the self-management behavior and self-management competences of patients with LHL and (b) to determine strategies for health care professionals regarding self-management support for patients with LHL based on their perspective.

Methods

We performed a qualitative study and conducted 11 in-depth interviews and one focus group with a total of 17 patients with LHL who had a chronic disease. Five interviews were conducted with Dutch patients and 6 interviews were conducted with patients with a different ethnic background (referred to as 'non-Dutch'). In the focus group 6 non-Dutch patients were involved. We included male and female patients, from different ages and various educational levels. The Dutch patients were recruited through the general practitioner and the non-Dutch patients through a department manager of a day care centre. For purpose of the study, a topic list was developed concerning six self-management competences and respondents' ideas for better self-management support by health care professionals in general practice. The results of the interviews and focus group with patients were discussed with health care professionals in general practice and resulted in the manual 'Self-management support for patients with LHL'.

Results

Patients with LHL self-manage their chronic disease and health behaviour on a day-to-day basis. They have a passive attitude towards problems and get often too late in touch with health care professionals and their social network. They do



not want to (additionally) activate their network because they already are very helpful. Patients with LHL don't stand up for themselves. This aspect is included in the development of the manual 'Self-management support for patients with LHL'. Most respondents demonstrated a low awareness of self-management of their disease, but indicated that they want to learn more about their condition. They feel dependent on the health care provider for e.g. health information, and seem to have low interest in more actively managing their condition. They are satisfied with health care and their relationship with the health care professional. Although they found it difficult to generate ideas for better self-management support from their health care professionals, they gave various practical strategies for health care professionals to self-management support. Examples are: active listening (asking questions, showing empathy), providing practical tips for home), discussing the cause of the chronic disease and asking the patient what he would like to understand better.

Conclusions

Patients with LHL tend to manage their disease on a day-to-day basis, and are less focused on the long-term consequences. They think they manage their condition well but also need strategies for health care providers to support them more successfully in self-management. Successful self-management support, with a focus on the practical strategies we derived from patients' interviews may improve self-management support of patients with LHL.

Authors: Miss Evianne Wijenberg (Vilans), Dr Jeanny Engels (Vilans), Dr Hester van Bommel (Pharos)

3.f iii) Empowering Migrants to Cope with Cancer - How to educate and engage migrant population on cancer

Many non-western migrants with low level of health literacy have to deal with the taboo on cancer. Next to it a part of these populations experience a lack of information on risk factors, signs, disease treatment options and treatment facilities. As a consequence they postpone / delay cancer screening programs, use of general practitioner, home care and psychosocial support. Since 2013 Pharos along with four intermediary migrant organizations organizes on a large scale discussions about cancer for migrants of Turkish and Moroccan origin. In 2013 Pharos provided training sessions for key figures from migrant organizations. During these trainings they learned about cancer and treatment facilities. Next to it they were educated to discuss cancer with the target groups in a culture sensitive way. After the training was finished the key figures organized a large number of small scale discussions in five cities in the Netherlands. Both the training and the discussions were conducted in cooperation with experts from Dutch cancer patient organizations. During the whole process Pharos coached and supported migrant organizations by providing them with suitable methods and materials. Based on experience from this trajectory Pharos developed a tool how to educate migrants on cancer. This tool consists of background information about migrants and cancer, the roadmap to organize and perform the discussions, tips and tricks, and inspiring examples. In 2015 we repeat this project with the same organizations and

key figures in order to satisfy a considerable need among the target groups. The four intermediary migrant organizations have now 12 well trained educators who are able to provide accurate information on cancer to target groups. In 2013/2014 migrant educators organized 24 discussions for 1.000 members of target groups. Indirectly their information reached 5.000 members of target groups. The use of educators led to the embedding of discussions on cancer in the regular activities of these migrant organizations. The cooperation between intermediary migrant organizations and patient organizations on cancer was strengthened. The toolkit we developed was distributed among organizations in the field of education and prevention. Culturally sensitive discussions on cancer satisfies a great need among migrants with low level of health literacy of Turkish and Moroccan origin in the Netherlands. The cooperation with intermediary migrant organizations and the use of well-trained migrant educators are key factors in gaining access to target groups. Professional support by providing high standard training, appropriate methods and space for cooperation with relevant organizations on cancer are of profound importance.

Authors: Ms Helena (Kosec)

3.f iv) Diabetes and Self-management How can you communicate effectively with diabetes patients with low levels of health literacy and support them in their self-management skills.

Many immigrant patients have a low level of health literacy: they have difficulties in obtaining health information and to understand and apply it correctly. Therefore they are at greater risk of poorer health outcomes, like diabetes. They also face problems taking medicines, insulin, correctly. People with low levels of literacy do not have the skills needed to find health information and to understand and use it, like reading, writing and calculating. They also have problems to understand healthcare professionals, or to correctly follow up the advice that is given. To tackle this communication problem, the healthcare professional should adjust his or her communication and is encouraged to use visual materials. Therefore Pharos started this project, specially for diabetes patients who have a low level of health literacy. Pharos developed a handbook for the patient with simple visual health information material about diabetes. This material supports the information given by the GP or healthcare professionals during the consultation. The handbook own's to the diabetes patient. So the patient can read it over and over again, and so his family can. The handbook has three parts: about the disease and body, what is diabetes, about what can you do by yourself if you have diabetes and which healthcare professionals you have to go to if you have diabetes. Firstly we started with an analysis of needs among GP's or other healthcare professionals into what information is essential for the patient. Secondly, we asked people with low literacy themselves what they think of the material about diabetes. Based on these analyses, Pharos, together with other organizations developed visual material, including simple words that de healthcare professionals can use and the patient can read, which is extensively pretested among all target groups (illiterates and GP).



Pharos also developed for healthcare professionals a guideline how to use this handbook and an education how they can support their patients with chronic diseases, in self-management skills. A handbook with understandable diabetes information for the patient with low level of literacy, a practical guide for the health professional how they can use the handbook and an education for the health professional how they can support the patients in their self management skills.

The patient understands better what is happening in his body, about the disease or why he has to take his medicine correctly. The patient has improved his own self management skills and understand better than before what diabetes is all about. The GPs and other healthcare professionals are educated how they can support the patient in self management skills.

Authors: Ms Hester van Bommel

3.f.v) An Explanation of Illness Perceptions and Treatment Beliefs in Patients with Chronic Pain and Different Levels of Health Literacy - A Qualitative Study

Introduction

Multidisciplinary rehabilitation treatment for patients with chronic pain is based on cognitive behavioral concepts. Changing patients' behavior in order to cope with chronic pain is the focus in these treatments. Patients' cognitive perceptions on chronic pain are explored and modified through pain education. Research has shown that patients with negative treatment outcomes had maladaptive illness perceptions about their pain and different treatment beliefs. These beliefs may be related to low levels of health literacy. However, research regarding this relationship is limited. The innovative character of this research is to explore the relation between the level of health literacy and beliefs patients with chronic pain hold about their illness and its treatment.

Methods

In this qualitative study, patients on the waiting list of a chronic pain program, from two rehabilitation centers in the Netherlands, were individually interviewed. A purposive sampling strategy was used to ensure that patients with different levels of health literacy were selected. The transcribed interviews were analyzed thematically with the Common Sense Model of Self-Regulation of Leventhal and the concept of Health literacy described by Paasche and Orlow as analytic frameworks.

Results

Eighteen patients were interviewed, 3 males and 15 females, with an age range from 21 to 77 years. Health literacy skills were described in three domains: access and utilization of health care, patient provider interaction and self-care.

A cluster of illness perceptions around identity, cause, timeline, consequences, and control were identified. Treatment beliefs about necessity, concerns, treatment-content/ outcome, active involvement of the patient and hope were found. Patients with low levels of health literacy tended to show less understanding and less control of their chronic pain compared with patients with normal to high levels of health literacy.

Conclusions

This study highlights the need for health care professionals to be sensitive to the level of health literacy of their patients in chronic pain rehabilitation programs, as this may influence illness perceptions and treatment beliefs.

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3.f.vi) Associations between health literacy, diabetes self-management, and glycemic control

Introduction

Health literacy relates to the individual's ability to access, understand, appraise and use information on health in everyday life. Life with diabetes involves extensive and complex self-management and health literacy is considered important in good diabetes management. Previous studies on health literacy and diabetes have mainly focused on the functional aspects of health literacy, e.g. reading and writing, and findings of associations to diabetes outcomes have been inconclusive. This study investigates associations between three domains of health literacy (Appraisal of health information, Ability to actively engagement with healthcare providers, and Understanding health information), and several patient factors: age, gender, education, mother tongue, cohabitation status, diabetes duration, diabetes empowerment, diabetes self-management (medication adherence, diet and exercise), glycemic control, BMI and self-rated health.

Methods

Data from a survey among patients with type 1 (n=1.425) and type 2 diabetes (n=925) from a specialist diabetes clinic in Greater Copenhagen area were linked to data from electronic patient records (age, gender, HbA1c, BMI, diabetes type and duration). Univariate analyses explored the association between health literacy domains (the Danish version of the HLQ™, 9 domains) and patient factors. Multiple regression analyses explored the association between health literacy and HbA1c including control for potential confounding by age, gender, education, mother tongue, cohabitation status and diabetes duration. Analyses were stratified by diabetes type.

Results

Results from unadjusted analyses showed that low health literacy was associated with lower education level, living alone, and lower self-rated health. For subjects with type 2 diabetes, low health literacy was associated with



having a non-Danish mother tongue. Associations between health literacy and age, gender, diabetes duration and BMI, respectively, differed by the domain studied: e.g. for people with type 1 diabetes, women had increased ability to appraise health information (domain 5) but decreased ability engage with healthcare providers (domain 6) compared to men. Generally, low health literacy was associated with low diabetes empowerment as well as low medication adherence, less frequent healthy eating and less frequent exercising. For people with type 1 diabetes, HbA1c levels above the general target ($>53\text{mmol/mol}$) were associated with low health literacy in all domains with indication of a dose-response relationship.

Conclusions

Low health literacy in subjects with diabetes is associated with low diabetes empowerment, less frequent performance of self-management activities and poorer glycemic control. However, the health literacy scores vary by gender, diabetes type and by domain of health literacy. This questions the common practice of reporting one overall score for "health literacy". Further analyses are needed in order to understand the mechanisms behind the findings. However, results of this study highlight the relevance of health literacy in diabetes research and diabetes support. Health literacy may provide a framework for differentiated patient support.

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3.f.vii) Predictors of health literacy in type 2 diabetes patients from Romania

Introduction

Diabetes is the most demanding chronic disease from a behavioral standpoint, with almost 95% of its management being controlled by patients. Diabetes education and functional health literacy are fundamental in providing individuals with necessary knowledge and skills to self-manage their disease. In Romania, 9% of individuals are suffering from diabetes and studies focusing on health literacy are scarce. Therefore, the aim of this study is to explore the predictors of low health literacy in a sample of type 2 diabetes patients in Romania. We report partial results from an ongoing data collection process.

Methods

A cross-sectional, self-administered, paper-pencil survey was conducted in a convenience sample of 91 patients diagnosed with type 2 diabetes from a clinical setting in Cluj-Napoca, Romania, between April-May 2015. We used descriptive statistics to explore variables of interests: socio-demographics, treatment adherence, and self-care behaviors (diet, physical activity, smoking status, blood sugar testing, and foot care); factor analyses and Chronbach's Alpha to assess the reliability of the functional health literacy scale; and linear regression models to evaluate the predictors of low health literacy in the sample. Scores of the functional health literacy scale were computed

and quartiles were considered as optimal cut-off points in determining the respondents' assignment to categories corresponding to limited, marginal and adequate levels of health literacy.

Results

The mean age of the sample was 59 years (SD 11.04), the majority of the respondents being women (50.7%) and living in urban area (71.6%). The highest level of education for 56.8% of participants was high school, the majority of them being retired (70.3%). Over a quarter of the sample (25.6%) was in the quartile with limited levels of health literacy and 16% reported that they are often unsure whether they are taking their medication correctly. Results show that 39.5% of sample sometimes has difficulties in remembering to take their medicines and 32% never discussed a healthy alimentation plan with their doctor. Also, 15% of the sample reported smoking and 5% of them reported smoking between 10-20 cigarettes per day. The factor analysis showed a KMO value of 0.78 for the functional health literacy scale and the scale's Cronbach Alpha was 0.815, indicating good internal reliability. Results of the linear regression analysis showed that age, smoking status, cutting back medicines, forgetting to take the medicines, feet examination, area of residence, and income explain 31.6% of the variance in health literacy. The analysis showed that only age ($\beta = -.162, p < 0.05$) and forgetting to take the medicines ($\beta = -2.292, p < 0.05$) significantly predicted low health literacy in the sample. Therefore older patients have increased levels of health literacy and patients with higher levels of health literacy have a lower probability to forget to take their medicines.

Conclusions

The results might be partially explained by the small study sample, and the particular organization of the Romanian healthcare system, which require chronically ill individuals to regularly visit their physician for prescriptions. In order to minimize the adverse effects of low literacy on the health of diabetes patients, efforts should be made to identify and address the health needs of adults with low health literacy and create tailored interventions.

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3.f.viii) Health literacy of women post breast cancer diagnosis

Introduction

Research suggests a link between health literacy and health outcomes. Currently few studies describe the relationship between breast cancer and health literacy. The aim of this study was to describe the health literacy of Australian women post breast cancer diagnosis using a multidimensional health literacy measurement tool.



Methods

The Health literacy Questionnaire (HLQ) was distributed to women listed on the Breast Cancer Network of Australia database. Cluster analysis was used to group participants with similar health literacy profiles. Results: 156 questionnaires were returned: mean age of participants was 56yrs. 84% of respondents had private health insurance, 80% were Australian born, 19% had low income (<\$37K) and 53% were employed. Cluster analysis revealed five distinct health literacy profiles. Women with low health literacy reported low social support, limited ability to engage with healthcare providers, find information and navigate the healthcare system

Conclusion

This research provides insight into health literacy of women post breast cancer diagnosis. The outcomes will provide important information to guide the development of interventions to support women with breast cancer.

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3.f ix) Treatment adherence and health literacy among African HIV-infected individuals in Denmark

Background

Poor treatment adherence is the main barrier for effective antiretroviral therapy globally. Studies have shown that HIV-related knowledge may affect understanding and utilization of HIV medical information; hence limited health literacy is a known barrier for treatment adherence. This pilot study aimed to investigate adherence, HIV-related knowledge and health literacy among African HIV-infected individuals in Denmark.

Methods

A cross-sectional study was conducted among African HIV-infected individuals from the Department of Infectious Diseases at Aarhus University Hospital, Denmark. All African HIV-infected individuals with appointments at the outpatient clinic between November 2014 and January 2015 were invited to complete a questionnaire on self-reported adherence, HIV-related knowledge, health literacy and demographic data. Health literacy was measured by HLS-EU (16 items), and HLQ (3 subscales, Social support for health, Ability to actively engagement with healthcare providers, Understanding health information well enough to know what to do). The questionnaire was filled in at a face-to-face interview, because of lack of reading abilities.

Results

A total of 29 African HIV infected individuals out of 69 eligible were included in the study period: 39 % (27) missed their scheduled consultation and 19 % (13) did not want to participate. These were mainly men. The majority of the participants were women. In total 13% reported having missed their medication within the last four days and during the last 30 days, 69% had remembered more than 90% of their medication. Overall, the participants had a relevant HIV-related knowledge, but there were some specific areas with important gaps, like lack of knowledge about adherence. From the HLS-EU questions many participants reported difficulties in relation to: "Find information on treatments that concern you", "Find information on how to manage mental health problems". HLS-EU sum scores from the scale will be present at the conference. According to the HLQ scales the participants reported difficulties especially related to the questions: "I can get access to several people who understand and support me" and "If I need help, I have plenty of people I can rely on". Many participants commented that they had difficulties understanding the HLS-EU questionnaire.

Conclusion

The study revealed that the participants had a good adherence, a reasonable HIV-related knowledge and health literacy. Many did not attend their appointments in the inclusion period and we do not know their level of adherence, HIV-related knowledge and health literacy. The latter calls for developing new approaches e.g. cultural targeted interventions to increase attendance, adherence and health literacy in this group of patients.

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3.f x) Understanding the Health Literacy Needs of Eastern Health Breast Cancer Patients

Introduction

Health literacy refers to the ability to engage effectively with health information and services. Newly diagnosed breast cancer patients face particular information management challenges. They are presented with a large volume of information, and are required to process this information in a sophisticated way and make multiple and often quick decisions about treatment. This occurs within the context of significant emotional distress and often illness symptoms.

Methods

Patients of Eastern Health's breast cancer clinics were invited to take part in a cross sectional study seeking to understand the health literacy, and information needs of breast cancer patients at the time of diagnosis. Participation involves the completion of the Health Literacy Questionnaire (HLQ) and the Cassileth Information Needs Questionnaire, and a semi-structured interview. Results: Data collection is currently underway and upon completion, cluster analysis



with be used to examine profiles of HLQ scale scores and any associations between the resultant groups and Cassileth scores, or demographic details. Qualitative data will be used to aid interpretation of the quantitative findings.

Conclusion

It is anticipated that this needs assessment will support the planning of quality improvement strategies, improving information access and provision for newly diagnosed breast cancer patients.

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3.g Health Literacy Policy Development

3.g i) Health Literacy in a Healthy City: Making the Case and Taking Action

Introduction

Health Literacy implies achievement of a level of knowledge, personal skills, and confidence to take action to improve personal and community health by changing personal lifestyles and living conditions. The benefits of improved health literacy are felt between government departments, across society as a whole and throughout the lifecourse. Health Literacy is a core theme for Belfast during Phase VI (2014-2018) WHO Healthy Cities Network. The concept is highlighted locally within government policy the Northern Ireland Executive's Making Life Better strategy and through a number of initiatives occurring at local and regional level. This presents an opportunity to develop and increase awareness of and interest in health literacy. Higher levels of health literacy promote access to good health related information, better health choices, less risk taking behaviour, better self-management and less hospitalisation.

Method

A cross sectoral working group was established with key partners to identify priorities for health literacy in Belfast, supported by Belfast Healthy Cities. A background paper was produced outlining the WHO definition of health literacy, evidence on the impact of health literacy on health and existing tools for measuring health literacy. A workshop was held to explore and develop a common understanding of health literacy within the context of Belfast. The chief Medical Officer for Northern Ireland opened the workshop, describing health literacy as a key determinant of equity and acknowledging the potential of this work in increasing knowledge, information, communication and access to services. The workshop presented models of practice locally in Belfast and drew on experience from the UK, looking at the national approach taken by Scotland and the city wide strategy progression of Stoke-on-Trent healthy city, as well as the National Adult Literacy Agency, Ireland. The workshop, facilitated by WHO Expert Adviser and HIA Specialist Erica Ison, identified a list of actions to take forward the topic.

Results

The workshop has enthused interest from key participants to be involved in developing the concept of health literacy locally. A template for evaluating and recording case-studies on health literacy has been developed and tested on existing case studies from partner organisations. The information recorded by applying the template will be recorded for reference in an online resource bank. A set of essential and desirable criteria has been developed by the group to enable identification of a suitable pilot project.

Conclusion

The working group, through an innovative partnership approach, will identify opportunities to pilot health literacy. Development of a set of guiding principles will enable organisations to incorporate health literacy at all levels. A resource bank of information will also be available to shape future practice. This online resource will provide examples of health literacy projects locally to enable local organisations to incorporate health literacy as a core part of their work.

Authors: Miss Anne McCusker (Belfast Healthy Cities)

3.g ii) Changing the Healthcare landscape in Groningen, the Netherlands: A participatory study, giving voice to multiple stakeholders

Introduction

As many other European countries, the Netherlands faces an increasing demand for care for older adults and chronically ill due to an ageing population. Particularly in rural areas, this leads to shortages in first-line care. Dutch healthcare policy is moving away from a 'social care state', towards a policy featuring increased participation and social accountability. Community councils are made responsible for transforming the healthcare in their communities.

This paper discusses a unique participatory action approach (PAA) used in Northeast Groningen province, where community councils opened dialogues with multiple actors to jointly construct a new healthcare landscape and facilitate health information literacy. In the project, voices of chronically ill, informal caregivers, a large health-insurance provider, primary and secondary healthcare providers, CareFirst (Zorgbelang), an umbrella organization for patient interest groups, and the University of Groningen were incorporated.

Methods

The PAA was chosen to encourage greater responsiveness of all stakeholders. Introductory meetings in three communities were organized for chronically ill and informal caregivers. These meetings were followed by five focus group discussions (FGDs), which captured experiences and expectations regarding policy changes and roles of formal and informal caregivers. Verbatim transcripts were coded, analyzed and findings validated and subsequently presented and discussed in a regional stakeholder meeting.



Results

The meetings encouraged stakeholders to share information and learn more about the policy changes impacting health care in their area. Large diversity in informal current care activities and associated concerns were found. Social networks are crucial for coping with high physical and mental burden that informal caretakers' experience. Caregivers are concerned about their increasing physical and mental workload, as well as the lack of information on the changes in the healthcare landscape. Experienced social-environmental (housing, transport) and bureaucratic challenges to obtain formal support affect the wellbeing of both chronically ill and their caregivers, often outweighing concerns about the new healthcare policy.

Conclusions

Health literacy capacities of stakeholders can be improved by empowering them and giving them more knowledge, skills and self-confidence in making decisions about their own health and healthcare. Policy changes can be made more acceptable when all stakeholders are involved, receive clear and simple communication on policy changes and are encouraged to contribute valuable information (empowerment). This PAA facilitated a process of building relationships and improving communication. The findings contribute to outlining a more people-centered integral care system of formal and informal sector.

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3.g iii) Disparities between explanatory models of Health Insurance, Healthcare Provider and clients

Introduction

Socio-cultural factors influence health by affecting exposure and vulnerability to disease, risk taking behaviors, the effectiveness of healthcare and promotion efforts. They determine to a large extent people's perceptions and responses to utilizing health care. These factors can be found at macro-level such as the broad understandings of illness, health and healthcare services and at micro-level, where it includes the face-to-face interaction between health worker and patient, determining the successful or failing communication. The socio-cultural notions about an episode of sickness and its treatment that are employed by all those engaged in the healthcare are defined explanatory models (EMs) (Kleinman A, 1980: 105). If a health worker elicits the clients' explanatory model, it will give him insight in the beliefs the client holds about his illness, the personal and social meaning he attaches to his disorder, his expectations about what will happen to him. Comparison of healthcare client explanatory model (EM) with the healthcare provider's EM and the health insurer's EM enables to identify major discrepancies

that may explain challenges in health literacy. Our study presents data from a study in Ghana, collected in 2011, where we aim to identify barriers for enrolment in the national health insurance scheme.

Methods

A participatory action approach with qualitative methods was adopted to allow the views and opinions of clients, primary healthcare providers and insurance to be heard in their own environment. We compare differences in perceptions and beliefs on access and barriers to healthcare and health insurance services and examine in detail the sources of the disparities that exist. In doing so we bring together and build upon the different EM's and enhance exchange of views and learning between the three stakeholder-groups.

Results

The study reveals differences in EM's between the three stakeholder groups at both macro and micro level. It also points at the power relations between stakeholders and the difficulties these cause in communication. This comparison will help the service providers know which aspects of their explanatory model need clearer exposition to clients and the community at large, and what sort of improvements are most appropriate. Once the different explanatory models have been made explicit, it will allow negotiating best solutions for enhanced health literacy and reduced barriers.

Conclusion

Identifying and understanding disparities in EM's will contribute to the science and practice of people-centered systems and improved health literacy. These results are useful for policy makers and practitioners.

Reference

Kleinman, A. Patients and Healers in the Context of Culture: An Exploration of the Borderland between Anthropology, Medicine, and Psychiatry. Berkeley: University of California Press, 1980.

Authors: Dr Christine J Fenenga (Population Research Centre, University of Groningen and Amsterdam Institute for Global Health and Development, The Netherlands), Mr Robert K Alhassan (University of Ghana), Mr Stephen K Duku (University of Ghana), Prof Inge Hutter (International Institute for Social Studies, The Hague, The Netherlands)

3.g iv) The relationship between the type of health care and patient health literacy: A comparative study in Belgium and France

Background

Research on health literacy within primary health care mostly focuses on the impact of the patients' health literacy level on the treatment process and health outcomes, or on the way health care services accommodate for low health literate patients. However, a patient's health literacy level can also be influenced by broader context factors, such as the type of healthcare that is provided. The current study compares the impact on the patients' health literacy



of two different types of health care: the Belgian “maisons de santé” model, which promotes a community health perspective provided by multidisciplinary teams, and the French “liberal” system of independent general practitioners.

Methods

A convenience sample of 36 Belgian patients enrolled in a Maison de santé and 45 French patients enrolled in the liberal system were interviewed using the 31 items of the health care and prevention scales of the HLS-EU-Q, to assess their capacity to access, understand, evaluate and apply information in health care and prevention. To control for cultural differences between Belgium and France, an additional group was interviewed consisting of 24 French patients treated at the “case de santé” in Toulouse, which is modelled after the Belgian maisons de santé.

Results

Patients enrolled in either the Belgian maisons de santé or the French case de santé had higher levels of health literacy than patients of the French liberal system (HL score of 71.3, 71.1 and 66.8, respectively), which suggests that the community health approach to primary health care has a positive influence on the patients’ health literacy. The differences held for both men and women, and were particularly manifest in older age groups (45+). The differences in HL were most pronounced for the sub-dimensions of accessing and evaluating health information, and least for understanding information.

Conclusion

The level of health literacy is influenced by the type of health care system in which the patient is enrolled, with a community oriented approach involving multidisciplinary work leading to higher levels of patient health literacy.

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3.g.v) The Austrian Platform Health Literacy - the Development of a National Platform

In 2011 the Federal Health Commission and the Austrian Council of Ministers requested the development of Austrian health targets at federal level. 10 national health targets were subsequently developed with the main aim of prolonging the healthy life years of all Austrian citizens by 2 years, irrespective of level of education, income or situation in life. The development of the health targets was a participatory process involving all relevant political and social stakeholders as part of a “Health in All Policies” (HiAP)-approach. This process was acknowledged as exemplary at the international level. The national health targets were officially approved in 2012.

Health target No. 3 focuses on the strengthening of health literacy in the population. It has 3 goals of impact: (1) furthering a health literate health care system in a participatory process, (2) improving individual health literacy especially in vulnerable groups, (3) anchoring health literacy in the production and services sectors.

International recommendations emphasise the importance of an appropriate coordination structure to implement and maintain a long-term development process on a national level. Therefore the Austrian Platform Health Literacy was created to provide national coordination and support of this health target and its impact goals. Its main aims are supporting sustained engagement with health literacy in Austria, furthering networking, collaboration, exchange of experiences and collective learning, coordinating measures between different policy and societal sectors, aiding in the development of a common understanding in the matter, spreading knowledge, facilitating innovation, establishing monitoring and reporting, and ensuring transparency and quality. The Austrian Platform Health Literacy is currently in its development phase. A core team consisting of members of the federal government, federal states, the social security institutions and HiAP partners is already in place as a strategic decision making body. The Austrian Federal Ministry of Health acts as chair of the core team. After the acquisition of members, which will be organisations with measures regarding the three impact goals, there will be representation of them in the core team as well. The coordinating centre is located in the Austrian Health Promotion Foundation and acts as an operative body for implementation. Important milestones in this first year of implementation are the development of criteria for membership and health literacy measures, welcoming first members into the platform, the organisation of a national kick-off conference and the building of a website.

Author: Dr Edith Flaschberger (Austrian Health Promotion Foundation)

3.g.vi) Inadequate support from health care professionals, emotional distress or health literacy problems - what are the most common causes of barriers with access to information encountered by parents of autistic children

Bringing up a child with developmental disability poses a great challenge to parents of children with autism. Parents may feel overwhelmed by the challenges of unpredictable behavior of their child and its restricted interpersonal skills and therefore experience greater amounts of stress, feeling of guilt and depression. Searching for the information is described as one of many problem-solving and stress-coping strategies in the literature. (Folkman & Lazarus 1988; Thompson et al. 1992). Information was found to have many important functions, for e.g. it can help parents to accept their child’s disability, to cope with their own distress and frustrations, enables parents to access health care services for children with ASD, later to manage their child’s difficult behavior (Pain 1999) and might help parents to respond more effectively to a range of life-changing events that may invoke stress (Murphy i Tierney). However at every stage of diagnosis: (pre-diagnosis, diagnosis, post-diagnosis and a final stage of acceptance and adaptation) parents may encounter many problems with access to relevant and reliable information about their child developmental problems. The main aim of this study will be to conduct a systematic literature search in order to answer the question if the information barriers most-commonly met by parents of autistic children are purely objective



(Caused by: ambiguity of diagnosis, lack of knowledge and support from healthcare professionals, geographic dispersions of autism support centers or support groups, low quality or irrelevancy of available educational materials, costs of obtaining support etc.) or if these barriers are of subjective nature and could arise from parent's emotional state during diagnosis, feeling of isolation, their intellectual abilities or health information literacy problems.

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3.g.vii) Moving Toward Patient-Centered Cross Border Mobility

Introduction

Cross-border patient mobility is a social phenomenon where EU/EEA citizens in need of medical treatment travel across borders to receive healthcare. Literature on cross-border patient mobility presents a wide variety of discourse on potential implications, challenges and opportunities related to this phenomenon. Obstacles include sudden health shocks that render patients unable to make a rational choice regarding healthcare, issues related to asymmetric information between patients and healthcare providers as well as the inadequate health literacy of nearly 1 in 2 Europeans. Thus, the aim of this research was to examine how EU/EEA citizens could be supported in decision-making on cross-border patient mobility.

Methodology

After conducting a review of the literature, a flow chart outlining potential considerations about the decision-making process of EU/EEA citizens on cross-border patient mobility was conceptualized. Next in order to obtain various ideas, advice and suggestions for creating an innovation wall on cross-border patient-centered care, an interactive online questionnaire was created. Based on the findings derived from the flow chart, the need for an integrated multi-stakeholder approach to support EU/EEA citizens in their decision-making journey was identified. Consequently, international experts from diverse backgrounds including academia, health insurance, international organizations, governmental organizations as well as patient organizations, were sent an animated clip of a fictitious cartoon patient facing the decision to go abroad for treatment. The snowball-sampling technique was employed and 19 experts from 8 European countries were recruited via online chain referral. Experts were asked 3 questions to outline strategies for statutory health insurers, health professionals, national contact points as well as citizens that could be implemented at the national or EU/EEA level to promote patient-centered cross-border mobility.

Results

The statements of 19 experts were organized into 7 categories including health literacy & information, networking, national contact points, harmonization, navigators, evidence, transparency and other. Most of the experts statements were related to the topic of information provision (e.g.: 'Much more information is required. '), transparency (e.g.: 'More transparency on quality data of hospitals'),

language barriers (e.g.: 'That information is available in local language'), health literacy (e.g.: 'Make sure it is in a style and format that most people can understand - even if their literacy is not good') evidence (e.g.: 'The data is needed to guide policy and practice') cooperation (e.g.: 'Networks supported by the EU'). National Contact Points (e.g.: 'should be able to give individual advice, but most of the contact-points are web-based information-centers').

Conclusion

The topic of patient-centered cross-border healthcare is complex. Thus, some experts expressed that achieving such care beyond national borders would require a paradigm shift. The diverse views of experts make it difficult to draw concrete conclusions. Nevertheless, the 7 key aspects outlined can be used to stimulate further discussions and research on how the decision-making process regarding cross-border patient mobility can be better facilitated and managed. Furthermore, the need to improve the quality of information provided to patients seeking cross-border care has clearly been highlighted.

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3.g.viii) Considerations for Developing a Health Promotion Network For the Aging Population in Austria

Introduction

As a consequence of the demographic shift, the percentage of Austrian inhabitants aged 65 years and above is increasing from year to year. Currently, this population group is consuming nearly half of the state's health expenditures, largely due to a high number of chronic diseases. To reduce these diseases and the impact they have on the quality of life of older people, as well as to control rising costs, systematic action is needed. This research, conducted on behalf of the Tyrolean Health Insurance Agency, analyses the necessary requirements and considerations for establishing an Austrian health promotion network for seniors over the age of 65 years. In order to achieve a holistic view, both seniors and professionals involved in aging programs and services were participants in the study.

Methodology

In addition to a literature review, a survey on the health promoting behaviours of 290 Tyrolean seniors was conducted. Furthermore, a stakeholder analysis was done to define relevant players who would be influenced by and have interest in establishing a health promotion network for seniors. Some stakeholders served as participants for a Delphi study used to generate expert knowledge about health promotion requirements for older Austrians. The two-round Delphi study was sent out via e-mail and answered by 17 out of 22 experts, including health promotion managers, health economists, academics, fitness instructors, physiotherapists and nursing home coordinators. The first round contained open-ended questions, including what does health promotion for older people mean to you? What services should be part of health promotion for seniors and what skills and knowledge are required by health professionals in order to meet



the health literacy needs of older participants of health promotion programs? The second round contained multiple-choice and open-ended questions

Results

85.42 % of aging participants reported being physically active. 86.6 % of the Tyrolean seniors reported that they have social contact to family, friends and acquaintances at least once a week or even several times a week. In the course of the Delphi, experts were asked what health promotion for older people means for them. The most important and meaningful factors reported were physical and mental fitness as well as healthy nutrition, followed by mobility and then health literacy and the provision of health information that is easy to comprehend. Moreover, in response to the question on the qualities, skills and knowledge required by health professionals, 16 out of 17 experts stated that “the ability to transfer information in an age-appropriate and understandable way” is important. Additionally, some experts alluded to aspects of critical health literacy, stating that the personal autonomy of older people should be supported through health promotion programs that empower seniors.

Conclusion

The high rate of return of the health promotion survey by local seniors, as well as the high response rate of the experts in two rounds of the Delphi study shows the growing interest in active aging in the region of Tyrol. A systematically organised health promotion network for Austrian seniors is an up and coming topic with a lot of engaged stakeholders. The Delphi study used in this research achieved consensus on a number of issues and provided policy makers and representatives of the provincial health insurance agency with invaluable insights.

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3.g ix) Doctors' and older patients' health literacy on functional decline and frailty. Results from Romania and Latvia

Introduction

The initiative of the survey was part of the European Innovation Partnership on Active and Healthy Ageing (EIPAH). We developed 2 questionnaires, 1 targeting doctors and 1 targeting patients aged 60 years and over, aiming to get an assessment of health literacy (HL) on age-related functional decline (FD) and frailty.

Methods

An expert panel from various disciplines developed the questions. The surveys were structured to integrate 4 health relevant areas: general knowledge, health care, disease prevention, health promotion and 5 information processing stages: accessing, understanding, appraisal, applying, awareness. The surveys were translated from English into Romanian and Latvian. Both were uploaded on an online platform (SurveyMonkey).

Statistical analysis was performed using Microsoft Excel 2010 and SPSS 22.0. All respondents were informed about the aim of the survey and how results

would be used. They filled in a customized informed consent before answering the questionnaire.

The surveys were carried out between April and October 2014. Responses were collected and analyzed between October and April 2015.

Results

We analyzed 301 responses from Latvian (150) and Romanian patients (151). Most respondents were aged 65-74 years (38.2%). 65% lived with their family. Only 8.3% were not retired. A high number declared to be aware of age-related FD (76.4%) and frailty (75.7%). Doctors represented the main source of information on FD (54.8%), followed by health broadcasts (22.9%), relatives, friends (20.3%) and journals (19.9%). Concerning frailty responses were similar: 50.8% saw doctors as a main information source.

Whereas most patients found it easy and very easy to access and understand information on FD (53.5%, respectively 59.8%) and frailty (57.5%, respectively 62.8%), an alarming percentage found it difficult and very difficult to access and understand information on FD (26.2%, respectively 28.9%) and frailty (27.6%, respectively 27.6%).

Only 44.8% stated they were engaged in some regular physical activity. Most respondents (71.8%) had consulted a doctor at least once during the last year, still a significant percentage (16.6%) had not had any medical checkup.

44.2% of respondents indicated TV and radio programs, a hotline where the public can call, an increase in physicians awareness and an increase in the awareness of the young generation, as measures that should be implemented to prevent FD and frailty.

We analyzed 298 responses from Romanian (148) and Latvian doctors (150) of various specialties. Gender wise, our sample was balanced: 48.7% women and 50.3% men. Most doctors were aged 45-54 years (31.1%). Most respondents (82.2%) saw elderly patients at least weekly.

Only 82.43% of doctors were aware of the functional decline concept and 78.9% of the frailty concept. A significant number of doctors stated they did not know any scale for assessing age-related FD (16.8%) and frailty (17.8%). Only 37.9% of respondents were, at least to some extent, familiar with the frailty phenotype and only 58.4% were familiar with the Functional Independence Measure.

Conclusions

The surveys generated for the first time data on the levels of HL on FD and frailty in Latvia and Romania. The overall level of HL was low, for both older patients and doctors. While this survey faced limitations in terms of sample size and geographical representation, a wider and more heterogeneous population could offer more in-depth insights.

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3.g xi) Cost Analysis of Existing Diabetes Self-Management Education Programmes in Europe, Taiwan and Israel.

Introduction

The cost-effectiveness of type 2 diabetes self-management programmes (DSME) is yet to be sufficiently substantiated within the EU.

This is linked directly to a lack of patient-level cost information at the provider level, as well as differing national level costing practices, which continue to challenge the comparative evaluation of programme costs and effectiveness between countries and health systems.

The aim of this study is to assess and compare the effectiveness of existing individual, group, and IT based DSME programmes in Europe, Israel and Taiwan.

Methods

This study will employ a Time-Driven Activity-Based Costing method in order to determine the cost of providing the programme per patient.

This process involves 'mapping out' the core activities performed by diabetes educators and administrative staff in the provision of diabetes education for the duration of each specific programme.

Data on the time and resources needed to complete each activity will also be collected. This information will be used to derive a patient level cost model in order to fully cost each education programme.

It will then be combined with pre-post clinical outcome data for each of the interventions to demonstrate the per-person programme cost relative to the clinical outcome achieved, as well as the comparative cost-effectiveness of the different programme types.

Results

The results of this study, which are expected in September 2015, will demonstrate variation in cost and time per patient related to programme and patient characteristics and identify the most time-consuming and costly activities within each education programme.

Conclusion

The results will provide a blueprint for policy makers, health professionals and diabetes advocates on how to best allocate resources in order to achieve value in the delivery of diabetes education programmes

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3.g xi) Development and application of the Health Literacy Response Framework

Introduction

The role of health literacy is increasingly a focus of governments, and health and community services given its association with health outcomes and importance to public health. The Optimising Health Literacy (Ophelia) Project identifies and tests new interventions to address health literacy needs in people from a wide range of socioeconomic and cultural settings in several countries. This paper presents the Health Literacy Response Framework (HL-RF), a key output of the Ophelia Victoria project. The HL-RF outlines the types of strategies practitioners and organisations can employ in response to the health literacy needs of community members, and the mechanisms by which these strategies influence health outcomes. The HL-RF acts as a guide for policy development, intervention planning and evaluation.

Methods

77 providers from eight organisations participated in workshops to reflect on health literacy data of their clientele to generate insights into: a) health literacy opportunities and challenges in the local community; b) potential strategies for optimising people's health literacy and improving organisational responsiveness to the identified health literacy needs of the community. Data were thematically analysed.

Results

Four levels of strategies were found across several hundred intervention ideas: 1) enabling staff to support and build the capacity of individuals; 2) enabling organisations to support and build the capacity of staff; 3) enabling organisations to improve organisational culture and the accessibility, and equity of services provided; and 4) enabling organisations to collaborate with other agencies and services. Themes were identified for each of these levels, along with the mechanisms connecting individual level interventions and health literacy outcomes. Relationships between strategies at each level were also presented.

Conclusions

The HL-RF is the first whole-of-system approach to organise current and potential strategies for improving health literacy and health outcomes of communities and community members. Locally developed solutions to health inequities are critical in public health, however this needs to be whole-of-system to be most effective. The HL-RF provides a framework that can guide development and selection of a wide range of locally-relevant and fit-for-purpose interventions that are likely to be implementable.



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3.g xii) The WHO Health Literacy Toolkit for Low and Middle Income Countries.

Health literacy is an important mediator of health outcomes and disparities in both developed and developing countries and brings together many concepts that relate to what people and communities need to order to make effective decisions about health for themselves, their families and their communities. Individuals and communities have health literacy strengths and limitations that influence how effectively they engage with health information and services. Health and social service systems can also have strengths and limitations in their responsiveness to the health literacy of the people they serve. Health literacy responsiveness describes the way in which services, environments and products make health information and support available and accessible to people with different health literacy strengths and limitations. This presentation will use exemplars from Africa and Asia to explore how health literacy interventions can be applied to advance health promotion practice, and improve health and equity. The presentations will cover efforts to embrace local cultures and generate fit for purpose interventions to improve health and equity. The premise of this presentation is that understanding of current approaches to health literacy, new conceptualisations of the concept, and new resources such as the WHO-SEARO Health Literacy Toolkit for Low- and Middle-Income countries, can underpin and improve current health promotion efforts across communicable and non-communicable diseases, at the individual, community and program level.

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3.h Health Literacy Prevalence

3.h i) Indicators of Health Literacy in Kazakhstan

Indicators of Health Literacy in Kazakhstan

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Introduction

Health literacy is essential for individuals and communities to enhance empowerment and improve the health outcome by increasing understanding of factual health information, being one of the main determinants of health. According to international health literacy professionals' view, health literacy is closely linked to education and entails the knowledge, motivation and competences to access, understand, appraise and apply health information to form judgment and make decisions in everyday life concerning disease prevention, health promotion and health care. The purpose of this study was to create an overview of health literacy status in Kazakhstan measuring health literacy. The European Health Literacy Questionnaire (HLS-EU-Q) was used with additional questions suggested by the Health Literacy Study project in Asia (HLA-Asia) regarding local culture and diversities in Kazakhstan to determine the most important indicators of health literacy and to examine associations between health literacy and health behaviours. The objectives are to present the results of health literacy survey in Kazakhstan in order to explore core health literacy issues and demonstrate how health literacy can be advanced further and their implications for healthcare in the future.

Methods

A cross sectional population-based survey was administered face to face in a sample of 1003 participants (aged 15-yrs) speaking Kazakh and Russian. The Health Literacy study in Kazakhstan was based on the conceptual model of the European Health Literacy Study consortium.

Results

First preliminary results will be presented at the conference. In particular, level of health literacy was significantly associated with self-assessed social status, education attainment, ability to pay for medication. There is no correlation with gender and marital status. The progress and milestones of a population-based survey will be illustrated.

Conclusions

Examining the results of the study in the context of existing Kazakh data on indicators of health literacy, health behaviours and health outcomes establishes a foundation for further research in this area, and it will contribute further development of public health and education policies.



Keywords

health literacy, health behaviours, population survey

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3.h ii) Mapping health literacy in Norwegian population using HLS-EUQ47

Introduction

It is expected that people take responsibility for their own health in everyday life through received health information. However, health information is available from different sources, more or less reliable. In order to be able to participate actively and take responsibility for their health, it is therefore necessary to have adequate health literacy skills. To adapt health information either in the dialogue between the individual and health professionals, or at community level, people's health literacy level must be known. In Norway health literacy is still a relatively new concept, and it has probably not earlier been measured in populations in this country. The aim of the study was therefore to investigate health literacy in Norwegian population.

Methods

European Health Literacy Survey Questionnaire (HLS-EUQ) was used to map health literacy in the Norwegian population. HLS-EUQ47 was developed by HLS-EU Consortium, and aims to measure the ability to access, understand, appraise and apply information relevant to health in populations regarding health care setting, disease prevention and health promotion. The instrument consists of 47 items which have a four point scale from very difficult (1) to very easy (4). The instrument was translated into Norwegian, and has been validated by Rasch-analysis. A random sample of 900 persons, 441 men and 459 women, from the Norwegian population was interviewed by telephone. Their mean age was 47, the youngest person was 16 years, and the oldest 91. Data is statistically analyzed.

Results

Preliminary results indicate that about 14 % (mean: 2.92 ± 0.415) of the respondents found it difficult to access health information, while 8 % (mean: 2.96 ± 0.361), 25 % (mean: 2.75 ± 0.423) and 10 % (mean: 2.92 ± 0.363) respectively found it challenging to understand, appraise and apply health information. For the total Q47 the mean value was 2.89 ± 0.338 . About two-thirds of the respondents ticked off in the categories "fairly difficult" or "very difficult" when asked how easy they feel it is to judge if the information about health risks and illness in media is reliable. Approximately 40 % experience it challenging to find out about how they can promote their health at work, and about the half experience it hard to understand information on food-packaging. Women achieve significantly higher scores, which can be interpreted that they have higher health literacy than men. Persons in the age group 15-45 years old score significantly higher regarding understanding health information, while they score significantly lower for the dimension appraise. Further results will be presented at the conference.

Conclusions

Limited health literacy might be a challenge in Norway as well, which could reduce the population's possibilities to make healthy decisions in their everyday life. Reliable health information should probably be more accessible and better adapted to target groups in the population.

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3.h iii) Health Literacy in the European Union: the development and validation of health literacy prediction models

Introduction

Health literacy is considered a determinant of health disparities. It is therefore important to have insight into the health literacy skills of the general population within countries. Within the EU, little research has been conducted to study the health literacy skills of the general population in EU member states. Since the measurement of health literacy often requires in-person interviews, which is not always feasible in survey research, a prediction model of health literacy might be an alternative manner to obtain insight into health literacy on population level. The aim of our study was to examine whether census data can be used to provide a reliable indication of health literacy skills on population level in EU member states.

Methods

Health literacy predictors were selected based on literature, on the availability in publicly available data and on the availability in the data that was at our disposal. Dutch data derived from the European Health Literacy Survey (HLS-EU) and the Adult Literacy and Life Skills Survey (ALL) were used to predict objective (tested) as well as subjective (self-reported) health literacy. Based on a random 2/3 of the ALL data and the HLS-EU data, a model was built to predict mean health literacy. This was conducted by using the scores on the HLS-EU Questionnaire (HLS-EU-Q) and the Newest Vital Sign (NVS), which were included in the HLS-EU, and the scores on the Health Activities and Literacy Scale (HALS), which was included in the ALL, as outcome measures. Stepwise linear regression analyses using backward deletion were applied to build models to predict mean health literacy. These models were validated in the remaining 1/3 of the Dutch HLS-EU and ALL data. Subsequently the models to predict mean health literacy were validated based on the HLS-EU data from seven other EU countries. Correlation coefficients were calculated to validate the prediction models.

Results

Level of education, age, sex, income, working status and urbanization were included as predictors in the prediction models. In the final models that included merely significant predictors ($p < .05$), education was an important



predictor of subjective as well as objective health literacy. Age and working status significantly predicted objective health literacy. Sex and income significantly predicted subjective health literacy. The prediction models to predict mean health literacy provided a reliable indication of health literacy when applied in the same population. The accuracy of the models to predict mean health literacy in other EU countries varied per country. The ranking of countries based on predicted mean health literacy scores per country did not completely match with the ranking of countries based on observed mean health literacy scores.

Conclusions

Census data can provide a reliable estimation of national health literacy levels in most countries. The prediction models can be used to provide an indication of health literacy within countries when health literacy measures are absent. Estimated health literacy scores should not be applied for comparative purposes between countries, as the prediction models were less useful for ranking countries in terms of health literacy levels.

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3.h iv) Health literacy of adults in Germany - Findings from the 'German Health Update', wave 2013-2014

Background

In today's information society, health literacy is considered important for health maintenance and disease management. In this context, dealing with health information is fundamental and requires different cognitive and social skills. Previous studies suggest that limited health literacy has negative effects on health. For Germany, data on the distribution of health literacy among the adult general population that are based on a Germany-wide representative sample are missing. The aim of this study was to investigate the distribution of health literacy levels in the adult population of Germany, and to identify associations with health behaviours and health status.

Data and Methods

The analyses were based on data from the 2013-2014 wave of the 'German Health Update' study, a cross-sectional survey of the German-speaking adult population of Germany carried out from October 2013 to June 2014. The survey was based on random samples of adults registered in the local resident registries of 100 randomly selected municipalities. The response rate was 20%. By using weighting factors, the sample design had been taken into account. The sample composition was adjusted by socio-demographics to match the adult population of Germany.

Health literacy was assessed with the short form of the European Health Literacy Questionnaire (HLS-EU-Q16), along with questions on socio-

demographics, health behaviours and health status. The HLS-EU-Q16 index was divided into three health literacy levels: 'adequate' (score 13-16 points), 'problematic' (score 9-12) and 'inadequate' (score 1-8). Analyses were stratified by sex, age, and education. Cross tabulation analysis and logistic regression models were calculated using the survey procedures of the statistical programme Stata 13.1 SE.

Results

The HLS-EU-Q16 index could be calculated for 4,845 respondents. According to the criteria of the HLS-EU-Q16, more than half of the adults had 'adequate' health literacy (55.8%; 95% CI=53.9-57.6). Every third person (31.9%; 95% CI=30.3-33.6) had 'problematic' and almost every eighth person (12.3%; 95% CI=11.0-13.8) had 'inadequate' health literacy. We found significant differences in health literacy by educational level, but no differences in health literacy by sex and age group. Women and men with low levels of education had a higher age-adjusted odds of 'inadequate' health literacy than women and men with high education (women: OR = 2.10; 95% CI = 1.36-3.23, men: OR = 1.83; 95% CI = 1.17-2.87). Certain health behaviours were positively associated with health literacy. A low health literacy level was associated with poorer physical and mental health.

Conclusion

In Germany, a significant proportion of adults shows difficulties in health literacy. Moreover, health literacy is socially unequally distributed and associated with specific health behaviours and health outcomes. The distribution of general health literacy level in the GEDA study showed a similar pattern like in two other recent studies from Germany. A mixed picture emerges regarding the socio-demographic characteristics. The often found differences in health literacy by education were confirmed but not the differences by sex and age. The results from the GEDA study are the first of its kind in Germany and point to a need for action to improve health literacy in the adult population in Germany.

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3.i Mental Health Literacy

3.i i) Mental health promotion for children of mentally ill parents. Assessment and promotion of teacher mental health literacy in order to promote child related mental health (Teacher-MHL)

Introduction

Over 3 million children, about one quarter of all students, experience at least one parent with mental disorder in Germany every year. Children of mentally-ill parents are at considerably higher risk of developing serious mental health problems. The different burden patterns and coping attempts often become manifest in children's school lives. In this context, schools can have an important protective function, but can also create risk potentials. In reference to Jorm, pupil-related teachers' mental health literacy (Teacher-MHL)



includes the ability to recognize change behaviour, the knowledge of risk factors, the implementation of first aid intervention, and seeking professional help. Although teachers' knowledge and increased awareness of this topic is essential, the literature provides little information on the extent of teachers' abilities. As part of a German-wide research consortium on health literacy, this project, launched in March, will conduct evidence-based mental health literacy research during a period of three years. The primary objective is to measure Teacher-MHL in the context of pupil-related psychosocial factors at primary and secondary schools (grades 5 & 6), while also focussing on children's social living conditions.

Methods

The project includes 3 research modules. (1) A systematic literature review in different databases (i.e. Pubmed, Cinahl) is currently underway to identify papers with regard to Teacher-MHL. Based on these results, an interview guide will be developed. (2) This module includes a qualitative pre-study to inductively survey the general profiles of teachers (n=24). (3) The findings will be translated into a quantitative teacher survey (n=2070 in the federal state of North Rhine-Westphalia) in order to assess the extent of socio-analytical skills of teachers as well as in relation to institutional and individual characteristics. The results will inform the development of an intervention programme to improve Teacher-MHL and capacity in the context of providing help to their students.

Results

A first screening of the literature (current phase) highlights a lack of information for Teacher-MHL and their skills, especially related to high-risk-groups like children of mentally ill parents. The national and international literature is limited to a few studies only. According to these, teacher are not good at identifying children with mentally ill parents, and if they identify those children they don't know how to handle the situations in school. They are not sufficiently trained to deal with these children, especially there are great uncertainties in dealing with the teaching situation. Institutional means and resources are missing as well. Such a mismatch can result in insufficient support and use of opportunities for children at risk.

Conclusions

For the first time schools will be addressed as a setting where children are especially "accessible" for measures of health promotion. Addressing Teacher-MHL gives reason to expect high effectiveness. Targeting professionals' abilities for dealing with this high-risk-group leads to a discharge for teacher themselves to handle those situations and increases school health promotion. In view of the fact that only 10-30% of such high-risk families accept offers of therapy and assistance, this will be the first primary preventive and health-promoting approach to protect the health of a yet unaffected, but particularly burdened, high-risk group.

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3.i ii) Is there something special about the health literacy of persons with mental health problems? Findings from a systematic review

Introduction

People with a high level of health literacy (HL) are more likely to effectively navigate the various health care structures for needed services such as receiving preventive health services and managing illness.

However, there is still a lack of research on HL in the context of specific health conditions like mental disorders which potentially hinder not only communication and compliance, but also the ability to make autonomous decisions concerning health.

Mental Health problems often go along with cognitive difficulties which can impede forming new concepts, thinking logically and sustain concentration: they may affect the abilities to effectively access, understand, appraise and apply health relevant information in order to sustain health and meaningfully engage in psychiatric interventions.

The need for adequate HL especially in people with mental health problems and the disorder itself as a potential barrier to it may pose a dilemma.

We want to shed light on the status quo of the assessment of HL in a psychiatric population and the underlying concepts of HL within the psychiatric context.

Methods

A systematic review was conducted searching the databases PubMed, PsycInfo and CINAHL in spring 2015, screening articles with focus on HL of people with mental health problems. We concentrated on the HL of people suffering from schizophrenia, psychosis, depression, or anxiety disorder. A total of 50 articles was included in the review.

Results

Overall results show, that HL within the psychiatric population is limited. At the same time, research on disease specific barriers and facilitators of HL is scarce. Attention should be paid to the lack of adequate instruments to assess the HL of people with mental illness.

Research on HL of persons with mental health problems is conducted by a broad variety of disciplines. Concepts of HL vary not only by discipline but rather in purpose. However, assessment of HL appears to be rather



homogeneous in this population but does not always reflect the complexity of the underlying concept of HL.

Two concepts contain essential aspects of HL of persons with mental health problems but do not cover the whole spectrum: Mental health literacy and psychoeducation. However, literature shows that these concepts are often confused or intermingled.

Conclusions

HL of persons with mental health problems is regarded as an important key to overcome barriers to treatment, to make self-governed health decisions, as well as to facilitate adherence to medication, appointment, and clinical advice.

Adequate HL can help coping with mental distress for a certain time span and therefore might prevent chronification. This will particularly become important for people at risk since the research and development of medical risk profiles and early detection measures of mental disorders progresses rapidly. Further research is needed on this issue.

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3.i iii) Promoting health literacy at the workplace: Encountering the array of evidence based health promotion - A research consortium funded by the (German) Federal Ministry of Education and Research

Introduction

Due to the high individual and socioeconomic importance of chronic diseases prevention and the growing demands on workers' health, workplace-related health promotion emerges to an important element of primary care prevention. The main objective of work-related health promotion is the improvement of individual health-related resources. In this regard, health literacy is considered a significant element of individual resources and needs to be improved to contribute to better health outcomes. The research consortium EVIWO tracks the interface of health literacy and the workplace and aims to develop recommendations on evidence-based interventions promotion health literacy at the workplace. In this context the following research questions are elaborated within the research association:

- ▶ What level of health literacy do the chosen samples display?
- ▶ Do the selected interventions enhance the participants' health literacy?
- ▶ How can we calculate cost-effectiveness of interventions targeting health literacy at the workplace?

Methods

Four supplementary research projects will be conducted by the research consortium to address the respective research questions detailed above. For this purpose, the theoretical construct of health literacy will be applied in several settings: Subproject 1 (Web-App) targets health promotion by enhancing the

health literacy of apprentices using a web-based intervention. Subproject 2 (AtRisk) aims at promoting health literacy in employees with work related risk factors using a multi-modal intervention. Subproject 3 (HelEvi) attends to foster health literacy of management staff and subproject 4 (EMPOWER) focuses on the performance of primary care practices in regard to health promotion and health literacy responsiveness.

Additionally, three crosscutting issues will contribute to the research consortium, supporting the projects in the development and (economic) evaluation of evidence-based interventions.

Results

The research consortium commenced in February 2015. We will present the structure and overall aim of the research consortium. In addition, we will delineate the objectives of and methods used in the four subprojects and present relevant aspects regarding the operationalization of health literacy as an outcome of a workplace-related health promotion intervention.

Conclusions

Targeting the interface of workplace-related health promotion and health literacy, EVIWO provides an essential contribution to health care and outcome research as well as health policy. The research consortium EVIWO will strengthen the future implementation of evidence-based health promotion interventions that improve health literacy.

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3.j Health Literacy and Health Promotion

3.j i) The use of "English as a second language (ESL)" educational resource to promote functional health literacy to migrants

Introduction

A primary opportunity to promote healthy lifestyles to migrants is during ESL lessons. Queries have been raised as to how to effectively utilise this time and whether this is an opportunity to contribute to the functional health literacy of a group otherwise hard to reach. The following paper describes the development component and preliminary evaluation of resources aimed at improving health related knowledge and language use with migrants within a local catchment area.

Method

3 health related language books were developed for non English speaking residents of Sydney Local Health District (SLHD). These are titled "Talking Good



Health”, “Understanding Good Health” and “Good Old Health”. Each book has a different target group and each unit within the book is devoted one health issue which is relevant to the target group. Each lesson is reviewed by health experts with the appropriate expertise. Accompanying sound files were developed to help to reach students who are illiterate. Contact details of local health services which may be of potential use to students were also provided. The resources incorporate health related language instruction and education in preventive health strategies as the key teaching content for the teachers and were utilized during ESL classes in SLHD. These provide ESL teachers with effective relevant lessons to teach non English speakers health related language and, on behalf of the health service, to teach preventive health strategies.

Results

Evaluations following the ESL classes utilising the books demonstrated a 230% increase in health related language together with improvements in knowledge of preventive health strategies. 23 language providers within SLHD had used the resource 3 months after it was distributed.

Conclusion

Providing ESL teaching resources directed at health literacy appears to be an effective way of teaching health related language and preventive health strategies to a high number of learners if it is applied and used by teachers over a sustained period of time. It allows learners to acquire understanding of health issues and the necessary vocabulary as part of English language lessons rather than in standalone information sessions. The integration of health content into English language classes maximises the likelihood of uptake of the information by learners. These language resources focus on knowledge and vocabulary that can be used by learners to have their health needs met. By addressing access the resource has the potential to positively impact on illness prevention but further research is needed that includes comparison to ESL classes that are not utilising these books to reliably examine their influence.

Authors: Ms Dorothy Mary Johnston (Sydney Local Health District)

3.j ii) Developing non-smoking supportive health literacy - A qualitative study on early adolescents' views

Introduction

Smoking, including non-conventional tobacco product use, is one of the leading reasons for health disparities and smoking prevalence varies considerably between socio-economic groups. To tackle these inequalities, tailored actions need to be taken already in early adolescence to build lifelong non-smoking supportive health literacy. The aim of this study was to describe early adolescents' own views on the development of their non-smoking supportive health literacy.

Methods

Early adolescents' (10 to 13 years old) views were examined using focus group interviews. The participants were recruited from 2 schools located

in South of Finland. In total, 39 early adolescents were interviewed in May 2014. The data was analyzed using qualitative thematic analysis method. The conceptual model of health literacy as an asset (Nutbeam 2008) was used as the theoretical framework of the study. According to the model, health literacy is based on prior knowledge and capacities, and can be improved with tailored health education and communication that promotes personal knowledge and capability, skills in negotiation and self-management (especially motivation and self-confidence) and skills in social organization and advocacy.

Results

Early adolescents' described that their non-smoking supportive health literacy should be built on their prior comprehensive knowledge about conventional cigarettes, but their knowledge gaps related to non-conventional tobacco products should be noticed. Adolescents thought that smoking is up to everyone's own choice, but personal capacities to make the choice may still vary. They also described they could encourage someone else not to smoke, but they were not aware of other ways to take social action and did not see themselves as advocates. Adolescents presented that their knowledge and capabilities to understand could be promoted by visualizing the consequences of smoking and by ensuring the consistency of the information with the intended message. They pointed out that their self-management motivation and self-confidence are based not only on the health consequences of smoking, but also e.g. on its effects to sports performance or to their living environment. They also thought that adults' and friends' support is important, but still e.g. peer pressure to smoke, desire to use smoking as a mean of social communication, adults' inconsistent behavior and societal actions, and curiosity may have an influence on them. Related to the social organization and advocacy skills development they did not have a view how their skills could be improved.

Conclusions

The early adolescents brought up several issues that increase understanding of non-smoking supportive health literacy development from their perspective. Actions targeting to improve their non-smoking supportive health literacy should pay more attention to the visualized and consistent information especially about non-conventional tobacco products, consequences of smoking that are part of their everyday life, and advocacy issues. Health education methods that allow adolescents to examine the information and consequences safely by themselves could help to reduce their curiosity. In addition to discussing about peers' social influences, adults need to pay more attention to their own example at the individual and societal level.

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3.j iii) Macy - The Health Literacy intervention for elderly and young people - nutrition and physical activity

Introduction

Macy was developed to encourage Health Literacy of elderly of 60 years and above and children between 11 and 14 years. The study aimed to improve, among others, physical activity and nutrition, focused on fruits, vegetables and beverages.

Methods

The intervention included 22 modules (nutrition 8, physical activity 4). In total 11 generation-spanning groups took part. 87 elderly and 91 children participated at the beginning (32% dropped out). The study comprised a baseline (t0) and 2 follow-ups (t1, t2). The current results were based on a T0-T1 comparison. The data was analyzed in SPSS with t-tests and Wilcoxon-tests.

Results

The consumption of fruits significantly rose from 1 to 2 servings in both target groups, but the consumption of vegetables did not increase. The elderly increased their number of beverages from 6 to 8 glasses. They also enhanced their physical activity with only a mainly light perceived exertion level. Both target groups enjoyed the intervention (elderly 96.6%, children 88.5%). Further results will also refer to social participation and body acceptance.

Discussion

The improvement of physical activity as well as the increased beverage consumption might be biased by a seasonal effect. More physical exercises are necessary to reach physical activity with a high exertion level. A reason to explain the unaltered vegetable consumption could be that the intervention mainly focused on the preparation of fruits.

Conclusion

Macy encourages Health Literacy and promotes active aging of the elderly. Therefore, the intervention will be introduced to further social services in Germany.

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3.j iv) Increasing Health Literacy in relation to nutrition among disadvantaged students: The DIATROFI Programme

Introduction

A large-scale school based nutrition programme, DIATROFI, is being implemented in disadvantaged areas across Greece since 2012. The Program was designed with a dual purpose. To respond to rising childhood food insecurity because of the country's on-going economic crisis and improve nutrition related behaviour and knowledge. It provides students living in low socioeconomic areas with a daily free healthy school meal and promotes healthy eating through educational activities. This paper describes the

educational activities implemented and their impact on nutrition related behaviour of children and their families.

Methods

Educational activities are designed based on in depth exploration of existing literature and focus groups with the target audience. Activities include healthy nutrition messages, age specific educational games and booklets, informational posters, leaflets as well as booklets distributed to parents, school staff and canteen owners. Students and their parents are also invited to participate in interactive informational and cooking events conducted by nutrition experts and volunteer chefs.

A number of validated questionnaires (FSSM, Food frequency questionnaire, KIDMED, PedsQL) are administered before and after project implementation to assess among other things the effectiveness and impact of the program on measurable outcomes which include food insecurity, consumption frequency of specific food items, and adoption of Mediterranean dietary habits. During the 2013-2014 school year 42727 and 26433 questionnaires were collected at baseline and post-intervention respectively and digitally processed using an automated reader system. 9897 pre-post questionnaire pairs were linked at individual level.

Results

Analysis of pre post and paired questionnaires revealed statistically significant ($p < 0.01$) improvement in food insecurity levels, reduction of obesity and improvement of healthy dietary choices (consumption of white milk and yogurt, fruit and vegetables and whole wheat products). The average index of food insecurity index decreased by 10.7%; the percentage of obese students was reduced from 7.6% to 6.5%; 14.0% of students who were obese at baseline reached normal weight post-intervention; From the percentage of students who did not consume milk 59.6% increased their consumption; of those not consuming fruits 71.4% increased their consumption; of those not consuming vegetables 47.5% increased their consumption and of those not consuming whole wheat bread, 49.2% increased their consumption. Parents reported a number of educational and social benefits of the Programme.

Conclusions

Health educational activities in combination with the provision of healthy meals through schools can improve nutrition related outcomes and food insecurity among disadvantaged children. Addressing health literacy through schools is an important tool for improving health related behaviors with important spillover effects for the wider community.

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3.j.v) Relationship between health education at university and students' health literacy, physical activity and personal health

Introduction

Increasing focus on health literacy as a key determinant of a person's ability to optimally manage their health encourage analysing the determinants predicting health literacy. In this study we aim to analyse relationship between health education at university and students' health literacy, physical activity, and personal health.

Methods

The sample were 919 university students (M age = 21.08, SD = 1.42; 63.3% male). The participants were recruited from four universities and represent different bachelor years of studies (263 from the first, 248 from the second, 261 from the third, and 147 from the fourth year). Health Literacy Measurement Instrument HLS-EU-Q (Sorensen et al., 2012) was used to measure health literacy. Students were asked to report on 47-items using 4-point self-report scale (from very easy - 4 to very difficult - 1). Godin Leisure-Time Exercise Questionnaire (Godin & shepherd, 1997) was used to assess student's physical activity. Additionally they were asked about their participation in competitive sport. Relation of studies with physical activity was measured asking to report the number of courses related with physical activity per week, as well as their study modules related with physical activity. Also students were asked "How is your health in general?" with five alternatives - from very good to very bad. First multiple hierarchical regression analyses were performed to assess demographics, relation of studies with physical activity, and the relationship of the involvement in competitive sport with health literacy. Second, regression analysis was performed to assess predicting physical activity. In this analysis students' involvement in sport was removed and health literacy included. The final regression analyses were performed to assess predicting variables of students' personal health. In these analyses students' physical activity and involvement in competitive sport were additionally entered.

Results

Results showed that for the students' health literacy only gender ($\beta = -0.12$, $p < .01$, with males expressing higher health literacy value) and involvement in competitive sport ($\beta = 0.11$, $p < .01$, with athletes students expressing higher health literacy) were statistically significant predictors. The year of studies and the relation of studies with physical activity were not related with health literacy. Only an increase in the number of courses related with physical activity per week was a significant predictor of students' physical activity ($\beta = 0.30$, $p < .001$). Studied modules related with physical activity were a significant predictor of personal health ($\beta = 0.09$, $p < .05$, as increase in such modules related with better personal health). Health literacy was negatively related with their health in general ($\beta = -0.09$, $p < .05$). As students' physical activity was not related, involvement in competitive sport was positively related with their health in general ($\beta = 0.14$, $p < .001$).

Conclusions

Research showed that health education modules at university were related with students' physical activity but not with health literacy. It was established that students with higher health literacy scores more negatively evaluated their personal health. This study suggests that in studies related with physical activity and health, it would be reasonable to analyse active involvement in sport and everyday physical activity separately.

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3.j.vi) Links Between Students' Health Literacy, Physical Activity and Motivation to Exercise

Introduction

Youth physical activity in the industrial countries is decreasing, which is directly related to their health and the quality of life. It is rather difficult to evaluate factors affecting physical activity motivation (Salio, 2008). Thus, looking for ways to promote physical activity evaluating students' specific needs to be physically active is of utmost importance. Students' health literacy not only promotes their physical activity, but also develops their motivation to exercise for their health (Standage, 2012).

Methods

The study involved 200 students from the Lithuanian Sports University, using the convenience sampling technique (55.2% of them were men and 44.8% - women). The study employed a questionnaire containing standardized scales: Health Literacy Scale: HLS-EU (2012), Motives for Physical Activities Measure (Ryan, at all, 1997), Godin Leisure-Time Exercise Questionnaire (Godin & Shephard, 1997).

Results

Research results show that health literacy is not statistically significant for students' physical activity. However, most physically active are students demonstrating excellent health literacy (52.2%). Students whose health literacy is sufficient or very good are more motivated to improve their physical fitness and enhance their health compared to students whose health literacy is insufficient. According to research carried out in other countries, the worse the health literacy, the fewer there are physically active people. When the health literacy was low, 78.8% of persons were absolutely not involved in any sport.

Conclusions

Health literacy of more than half of the Lithuanian Sports University students is sufficient and very good. There are only 12.15% of men and 15.7% of women among the university students who are physically inactive. The main motive for students' physical activity was the improvement of health and physical fitness. No relation was found between Lithuanian Sports University students' health



literacy and physical activity. However, students with higher levels of health literacy were statistically significantly more motivated to exercise for the improvement of their health and physical fitness compared to students whose health literacy was problematic or insufficient.

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3.j viii) Health literacy strengths and needs among vulnerable groups: the Health Literacy Questionnaire (HLQ)

Background

Recent advances in health literacy measurement allow description of a broad range of personal and social dimensions of the concept. Identifying differences in patterns of health literacy between population sub-groups will increase understanding of how health literacy contributes to health inequities. The aim of this study was to use a multi-dimensional measurement tool to describe the health literacy of adults in Victoria, Australia.

Methods

Data were collected from clients (n=813) of 8 health and community care organisations, using the Health Literacy Questionnaire (HLQ). The questionnaire measures health literacy across nine distinct domains. These are: feeling understood and supported by healthcare providers; having sufficient information to manage health; actively managing health; social support for health; appraisal of health information; ability to actively engage with healthcare providers; navigating the healthcare system; ability to find good health information, and; understanding health information well enough to know what to do. The HLQ was developed using a grounded approach and seeks to

capture the key concepts embedded in the WHO description of health literacy, thus providing clear access points for intervention. Demographic and health service data were also collected. Effect sizes (ES) for standardised differences in means were used to describe the magnitude of difference between demographic sub-groups.

Results

Mean age of respondents was 72.1 (range 19–99) years. Females comprised 63% of the sample, 48% had not completed secondary education, and 96% reported at least one health condition. Compared with participants who spoke English at home, those not speaking English had much lower scores for most HLQ scales including the scales 'Understanding health information well enough to know what to do' (ES -1.09 [95% confidence interval (CI) -1.33 to -0.84]), 'Ability to actively engage with healthcare providers' (ES -1.00 [95% CI -1.24, -0.75]), and 'Navigating the healthcare system' (ES -0.72 [95% CI -0.97, -0.48]). Similar patterns and ES were seen for participants born overseas compared with those born in Australia. Smaller ES were seen for sex, age group, private health insurance status, number of chronic conditions, and living alone.

Conclusions

This study has revealed some large health literacy differences across nine domains of health literacy in Victorian adults. These findings provide insights into health literacy within vulnerable groups and, given the focus of the HLQ, provide guidance for the development of interventions to improve equity.

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