



# Atención Primaria

www.elsevier.es/ap



## PARALLEL SESSIONS: SYMPOSIUMS

### 2<sup>nd</sup> World Congress of Health Research

Viseu – Portugal, 7-8 October 2014

#### SYMPOSIUM: FROM OLD TO NEW WAVES: PSYCHOMETRIC STUDIES, PREVENTION AND TREATMENT OF DEPRESSION IN PORTUGUESE ADOLESCENTS

**Coordinator:** Ana Paula Soares de Matos, Faculty of Psychology and Educational Sciences of the University of Coimbra, Portugal, CINEICC – Centre for Research and Intervention Research of the Center for Cognitive-Behavioural, Apmatos. Fpce@Uc.Pt

#### Incorporate Communications

##### AUTOMATIC THOUGHTS AND DEPRESSION: PORTUGUESE VERSION OF THE ATQ-R

Inês Margarida Pereira<sup>a</sup>, Ana Paula Matos<sup>b</sup>, Andreia Azevedo<sup>b</sup>

<sup>a</sup>Faculty of Psychology and Education Sciences of the University of Coimbra, Portugal; <sup>b</sup>CINEICC-FPCE-UC, Portugal.

Contact details: [inesmdpereira@gmail.com](mailto:inesmdpereira@gmail.com)

**Introduction:** The Automatic Thoughts Questionnaire-Revised (ATQ-R; Kendall, Howard, & Hays, 1989) is a measure of negative and nonnegative self-statements related to depression which has been reported to successfully discriminate between depressed and nondepressed subjects in clinical and nonclinical populations of adults and children.

**Objectives:** To study the Portuguese version of the ATQ-R in adolescents and explore its ability to predict depressive symptomatology.

**Methods:** The sample is comprised by 245 adolescents from the general population, 88 males and 157 females, aged 14 to 18 ( $M = 15.61$ ;  $DP = 1.3$ ). The evaluation protocol included sociodemographic questionnaire, the CDI (Kovacs, 1985, 1992; Marujo, 1994) and the ATQ-R (ATQ-R; Kendall, Howard & Hays, 1989).

**Results:** Gender differences were obtained and girls present significantly higher results in depressogenic cognitions measured by the ATQ-R as well as higher results in the CDI. The capacity of the ATQ-R in predicting depressive symptomatology (CDI) was studied considering the two dimensions of the ATQ-R (negative and positive cognitions). It seems that the ATQ-R can successfully predict depressive symptomatology and that positive cognitions increase this prediction.

**Conclusions:** The findings with adolescents parallel those evident in previous studies among adults and children, which evidence that negative cognitions predict depressive symptoms and ATQ-R is an adequate instrument to measure them. Further work is needed to study the properties of the questionnaire in clinical populations of adolescents and examine its relation to other measures of cognitive processes.

**Keywords:** Adolescents. Depressogenic cognitions.

##### STUDY OF THE FACTORIAL STRUCTURE AND INTERNAL CONSISTENCY OF THE RESILIENCE SCALE – SHORT VERSION IN ADOLESCENTS

Ana Paula Matos, Anaísa Oliveira<sup>b</sup>, Maria do Rosário Pinheiro<sup>a</sup>

<sup>a</sup>CINEICC-FPCE-UC; <sup>b</sup>FPCE-UC, Portugal.

Contact details: [apmatos@fpce.uc.pt](mailto:apmatos@fpce.uc.pt)

**Introduction:** In recent years the interest in adolescent resilience has increased significantly. The Resilience Scale (RS) is a self-report instrument originally constructed by Wagnild & Young (1993) in order to evaluate the degree of individual resilience. Two versions of the scale have been developed, a long and a short version.

**Objectives:** The purpose of the present study is to corroborate the unifactorial structure of the Resilience Scale Short Version for Adolescents (RS13-A; Portuguese version by Pinheiro & Matos, 2012) proposed by Wagnild (2009) and to assess internal consistency in a Portuguese sample of adolescents from both public and private schools.

**Methods:** A confirmatory factor analysis (CFA) was conducted to corroborate the unifactorial structure proposed by Wagnild (2009) in a sample including 308 adolescents with 167 (53.9%) female and 141 (45.5%) male participants, and ages between 12 and 17 years ( $M = 13.77$ ;  $SD = 1.142$ ). Cronbach alpha coefficient was calculated.

**Results:** The CFA led to the construction of a 12 item scale, distributed by a single factor, resilience (item 9 was removed). The RS13-A showed a good value of internal consistency ( $\alpha = 0.87$ ).

**Conclusions:** This study corroborated the one-factor solution of the RS13-A and demonstrated the good psychometric characteristics of the scale. The results support the usefulness of the tool to assess resilience in adolescent samples.

**Keywords:** Factorial Structure. Resilience. Adolescence.

### PREVENTION OF DEPRESSION IN ADOLESCENTS – A 12-MONTH FOLLOW-UP

Ana Paula Matos<sup>a</sup>, Cristiana Marques<sup>a</sup>, Sara Oliveira<sup>a</sup>, Maria do Rosário Pinheiro<sup>a</sup>, Daniela Marques<sup>b</sup>

<sup>a</sup>CINEICC-FPCE-UC; <sup>b</sup>FPCE-UC, Portugal.

Contact details: [apmatos@fpce.uc.pt](mailto:apmatos@fpce.uc.pt)

**Introduction:** Depression is one of the most common disorders in children and adolescents, causing a long-term impairment. A preventive program for adolescents – “Mind and Health” developed by (Arnarson & Craighead, 2009) was adapted to the Portuguese population: Program for the Prevention of Depression in Adolescents (PPDA). It consists of 14 sessions, framed in cognitive-behavioural models of mood disorders and includes components that have been found to be effective.

**Objectives:** To assess the efficacy of the PPDA, from baseline to 12-month follow-up.

**Methods:** This is a quasi-experimental study with a sample of 42 students from experimental group and 45 from control group. These 70 subjects at risk from depression represents 7.81% (N = 896) of the total sample, collected in Portuguese schools, aging from 13-15 years. The Children’s Depression Inventory (CDI) was administered to measure the efficacy of the program.

**Results:** There are significant differences in within subjects analysis ( $p = 0.04$ ) from baseline to 12-month follow-up in the experimental group.

**Conclusions:** The results suggest that PPDA can be effective to reduce the depressive symptomatology in adolescents.

**Keywords:** Depression. Prevention. Adolescents. Program.

### PREVENTION OF DEPRESSION IN ADOLESCENTS: SOME RESULTS OF APPLICATION OF A PARENTAL PROGRAM

Ana Paula Matos, Maria do Rosário Pinheiro, Sara Oliveira, Cristiana Marques

CINEICC-FPCE-UC, Portugal.

Contact details: [apmatos@fpce.uc.pt](mailto:apmatos@fpce.uc.pt)

**Introduction:** The Parental Program for the Prevention of Depression in Adolescents (3PDA) was developed to improve the efficacy of the Program for the Prevention of Depression in Adolescents (PPDA), which include new components that enhance welfare and psychological suffering, such as emotional validation and compassion.

**Objectives:** To describe the implementation and evaluation processes of the program, and analyze the efficacy of the 3PDA in the results of PPDA (Arnarson & Craighead, 2009).

**Methods:** The total sample was comprised by 42 parents of adolescents aged between 13 and 15 years, considered at risk (scores between the 75th and the 90th percentiles on the CDI) that had attended the PPDA. The sample was divided into two groups: 14 were allocated into the experimental group (parents attending the 3PDA) and 28 into the control group (parents not attending the 3PDA). The 3PDA is composed by 10 thematic sessions, during 5 weeks, 10 hours in total. To collect the data, indicators of satisfaction to assess each session were used, like assiduity, overall satisfaction and instructor-group interaction.

**Results:** We found high values on the satisfaction indicators. The group of adolescents whose parents are not at the 3PDA have 3 times more depressive symptoms at the end of the intervention compared with the group of adolescents whose parents are at the 3PDA.

**Conclusions:** Although the small sample of parental experimental group, the 3PDA seems to be relevant in increasing the effectiveness of PPDA.

**Keywords:** Parental program. Depression. Prevention.

### NEW TREATMENT FOR DEPRESSION WITH ADOLESCENTS: PRELIMINARY RESULTS

Andreia Azevedo, Ana Paula Matos

CINEICC-FPCE-UC, Portugal.

Contact details: [andrea.azevedo81@gmail.com](mailto:andrea.azevedo81@gmail.com)

**Introduction:** In adolescence, depression appears to be a very impairing condition, due to its serious psychosocial consequences and recurrence (Monroe & Harkness, 2011). For this reason, it is necessary to treat it as soon as possible, using interventions effective in maintaining the therapeutic gains. We developed a new treatment composed by components of the “third generation therapies”.

**Methods:** The present pilot study of the randomized controlled trial was conducted in the Pediatric Hospital of Coimbra, Portugal, and enrolled eight severely depressed adolescents aged between 14 and 18 years. The population was identified by diagnostic interview and characterized by self-report instruments. We compared the experimental group, to which the treatment was applied, and the control group, under “treatment as usual” condition, in pre-treatment and post-treatment moments.

**Results:** The preliminary results showed that the treatment was effective in reducing depressive symptoms, suicidal ideation and risk factors as self-criticism, and in promoting protective factors, such as self compassion.

**Conclusions:** These preliminary data seem very promising. It is necessary to replicate them with a larger sample, which is now being enlarged. To test its capacity for maintaining treatment gains, a large follow up study is being conducted.

**Keywords:** Adolescent. Depression. Treatment. Effectiveness.

### SYMPOSIUM: CORRELATES OF PROFESSIONAL EMPOWERMENT AND BURNOUT IN END-OF-LIFE CARE

**Coordinator:** Pablo Hernández-Marrero, University of Las Palmas de Gran Canaria, Faculty of Health Sciences, Department of Nursing, Spain. Assistant Professor.

#### Incorporate Communications

### THE RISK OF BURNOUT AMONG HEALTHCARE PROFESSIONALS PROVIDING END-OF-LIFE CARE: PROFESSIONALS’ TESTIMONIALS

Maria Aparício<sup>a</sup>, Emília Fradique<sup>b</sup>

<sup>a</sup>Hospital da Luz; <sup>b</sup>Centro Hospital de Lisboa Norte, Hospital de Santa Maria, Portugal.

Contact details: [maparicio@hospitaldaluz.pt](mailto:maparicio@hospitaldaluz.pt)

**Introduction:** Working in palliative care has an emotional impact on healthcare professionals who are at risk of developing burnout. Caring for patients who are at the end of their lives is a simultaneously challenging and rewarding experience.

**Objectives:** To share and reflect on the emotions caused by providing end-of-life care.

**Methods:** This presentation is based on personal reflections and professionals' testimonials; hence a narrative approach will be used. Presenting authors were selected due to their extensive experience working in two different types of specialised palliative care teams in Portugal (more than 10 years of professional experience; one hospital support team and one inpatient unit). Also, they participated in a project on burnout in palliative care conducted in Portugal between 2008-2009.

**Results:** The most common feelings experienced by the presenting authors and colleagues from their correspondent teams are: happiness and well-being, sense of developing an emotionally rewarding work and personal and professional satisfaction. Nevertheless, ambivalence and negative feelings such as sadness and stress are also experienced, mainly due to the fact that these professionals care for patients who are suffering deeply, having to cope with patients' death and families' bereavement. Organisational constraints and conflicts with other healthcare teams are on the basis of stress-related feelings.

**Conclusions:** This presentation will enhance the emotional impact of working in end-of-life care, as perceived by the professionals themselves. As part of a thematic symposium, these presentations will set-up the scene for evidence-based presentations and discussions on the risk of burnout and professional empowerment in end-of-life care.

**Keywords:** Palliative care. Emotional impact. Burnout.

### BURNOUT IN END-OF-LIFE CARE: RESULTS FROM A MULTICENTER COMPARATIVE STUDY BETWEEN INTENSIVE AND PALLIATIVE CARE UNITS

Sandra Martins Pereira<sup>a</sup>, Carla Margarida Teixeira<sup>a,b</sup>, Pablo Hernández-Marrero<sup>a,c</sup>, Ana Sofia Carvalho<sup>a</sup>

<sup>a</sup>Gabinete de Investigação em Bioética, Instituto de Bioética, Universidade Católica Portuguesa; <sup>b</sup>Centro Hospitalar do Porto, Hospital de Santo António; Instituto de Ciências Biomédicas Dr. Abel Salazar, Universidade do Porto, Portugal; <sup>c</sup>Facultad de Ciencias de Salud, Universidad de Las Palmas de Gran Canaria, España.

Contact details: [martinspereira.sandra@gmail.com](mailto:martinspereira.sandra@gmail.com)

**Introduction:** Repeated contact with dying and death is described as a major burnout risk factor. Hence, professionals working in palliative and intensive care units are at special risk. Little is known on this subject in Portugal.

**Objectives:** To identify and compare burnout levels and its related factors among physicians and nurses working in palliative and intensive care units in Portugal.

**Methods:** Multicenter quantitative, comparative study. The Maslach Burnout Inventory was used for data collection and a questionnaire of socio-demographic variables was applied. 355 professionals were included in this study, of which 88 worked in palliative care units (PCUs) and 267 in intensive care units (ICUs). Univariate and multivariate logistic regression analyses were performed; OR sidelong with 95% of CI were calculated.

**Results:** Out of the 267 professionals working in ICUs, 25% exhibited burnout, and out of the 88 professionals working in PCUs, only 3% exhibited burnout. Univariate logistic regression analysis showed that the outcome variable -burnout- was 2.384 (95%CI 1.273-4.465) times higher among professionals working in ICUs. When controlling for other variables (e.g., professionals' socio-demographic characteristics, post-graduated education in intensive/palliative care, work-related experiences), differences remained significant (OR = 2.525: 95%CI 1.025-6.221). Higher levels of burnout in ICUs were related to being a nurse (OR = 1.849; 95%CI 1.029-3.321) and experiencing conflicts (OR = 2.170 95%CI 1.218-3.866).

**Conclusions:** The likelihood of exhibiting burnout is more than twice higher in intensive care than in palliative care. Being a nurse and experiencing conflicts in the work-context are associated with higher burnout levels.

**Keywords:** Burnout. Palliative care. Intensive care.

### BURNOUT IN END-OF-LIFE CARE: WORK-RELATED EXPERIENCES IN INTENSIVE AND PALLIATIVE CARE UNITS AND RELATION TO BURNOUT

Carla Margarida Teixeira<sup>a,b</sup>, Sandra Martins Pereira<sup>a</sup>, Pablo Hernández-Marrero<sup>a,c</sup>, Ana Sofia Carvalho<sup>a</sup>

<sup>a</sup>Gabinete de Investigação em Bioética, Instituto de Bioética, Universidade Católica Portuguesa; <sup>b</sup>Centro Hospitalar do Porto, Hospital de Santo António, Instituto de Ciências Biomédicas Dr. Abel Salazar, Universidade do Porto, Portugal; <sup>c</sup>Facultad de Ciencias de Salud, Universidad de Las Palmas de Gran Canaria, España.

Contact details: [martinspereira.sandra@gmail.com](mailto:martinspereira.sandra@gmail.com)

**Introduction:** Professionals working in end-of-life care are at risk of developing burnout. Literature shows that work-related experiences are determinant factors to develop this syndrome.

**Objectives:** To identify which work-related experiences are significant and positively associated with burnout among physicians and nurses working in palliative and intensive care units in Portugal.

**Methods:** Multicenter quantitative, comparative study. The Maslach Burnout Inventory was used for data collection together with a questionnaire including a set of work-related experiences. 355 professionals from intensive and palliative care units were included in this study. Univariate and multivariate logistic regression analyses were performed; OR sidelong with 95% of CI were calculated.

**Results:** Out of the 355 professionals included in this study, 27% were in burnout. Univariate regression analyses showed that burnout was significantly associated with the following work-related experiences: night shifts, conflicts, forgoing treatment decisions (both withholding and withdrawing treatments) and implementing terminal sedation. When controlling for professionals' characteristics (socio-demographic and education) and setting (intensive vs. palliative care units), the only variable that remained significantly associated to higher burnout levels was 'conflicts'.

**Conclusions:** Work-related experiences increase the risk of developing burnout among professionals providing end-of-life care. Experiencing conflicts with others was the most significant variable associated to higher burnout levels. These findings suggest the need to further implement conflict-management strategies in these settings, helping professionals to cope with high-demanding situations associated to providing end-of-life care.

**Keywords:** Burnout. End-of-life care. Experiences.

### DETERMINANTS AND OUTCOMES OF PSYCHOLOGICAL EMPOWERMENT IN HEALTHCARE PROFESSIONALS: HOW TO PROMOTE EMPOWERMENT

Pablo Hernández-Marrero<sup>a,b</sup>, Carla Margarida Teixeira<sup>b,c</sup>, Ana Sofia Carvalho<sup>b</sup>, Sandra Martins Pereira<sup>b</sup>

<sup>a</sup>Facultad de Ciencias de Salud, Universidad de Las Palmas de Gran Canaria, España; <sup>b</sup>Gabinete de Investigação em Bioética, Instituto de Bioética, Universidade Católica Portuguesa; <sup>c</sup>Centro Hospitalar do Porto, Hospital de Santo António; Instituto de Ciências Biomédicas Dr. Abel Salazar, Universidade do Porto, Portugal.

Contact details: [martinspereira.sandra@gmail.com](mailto:martinspereira.sandra@gmail.com)

**Introduction:** Organisations' only true sustainable advantage is its people. Health professionals are key-players in providing quality

patient-centred care. Their perceptions of the work environment influence their well-being and empowerment. This may affect the quality of care and other individual, team and organisational outcomes.

**Objectives:** To reflect on the concept of professional empowerment and its determinants and outcomes.

**Methods:** Theoretical and empirical approaches will be integrated to introduce the construct of empowerment in the workplace, its correlates and its individual, team and organisational inter-connections and outcomes. A series of survey studies were conducted in different settings to expand the understanding of the nomological network of psychological empowerment (PE) in the workplace.

**Results:** Empowered professionals viewed themselves as more effective and satisfied in their work. Consequently, there was less intention-to-leave and higher perception of well-being. PE mediated the relationship between four predictors (empowering leader behaviours, trust, justice and social-structural factors of the work unit) and several outcomes (effectiveness, commitment, burnout).

**Conclusions:** Based on these findings, recommendations will be made to ensure that healthcare managers and professionals leading health services act as leaders and facilitators in promoting trustworthiness, fairness and empowering environments. These are critical to ensure the quality of care provided, prevent burnout and promote professionals' well-being.

**Keywords:** Psychological empowerment. Empowering environments.

### PREVENTING BURNOUT AMONG HEALTHCARE PROFESSIONALS WORKING IN END-OF-LIFE CARE: DESIGNING AN INTERVENTION PROGRAM

Ana Paula Nunes<sup>a</sup>, Ana Sofia Carvalho<sup>b</sup>,  
Sandra Martins Pereira<sup>b</sup>

<sup>a</sup>*Escola Superior de Saúde da Cruz Vermelha Portuguesa, Portugal;* <sup>b</sup>*Gabinete de Investigação em Bioética, Instituto de Bioética, Universidade Católica Portuguesa.*

Contact details: [martinspereira.sandra@gmail.com](mailto:martinspereira.sandra@gmail.com)

**Introduction:** Complex clinical situations as those caused when providing end-of-life care are a major risk for burnout. It is urgent to implement active strategies and intervention programs to prevent and/or diminish burnout levels among professionals working in intensive and palliative care units.

**Objectives:** To present an intervention program aimed at preventing burnout in intensive and palliative care units; and to discuss the applicability of this program in real clinical contexts.

**Methods:** Based on a literature review and comparison of the results of previous studies on burnout in intensive and palliative care units and its related factors, an intervention program has been designed.

**Results:** The intervention program has been structured considering the following dimensions: emotions, emotional intelligence, social skills, quality of life in the work environment, communication and team work, (education about) dying and death, self-awareness, relaxation, and humour.

**Conclusions:** This program has been developed as an interventive strategy to diminish and/or prevent burnout among professionals providing end-of-life care. It is expected that by discussing its applicability in real clinical contexts, further developments might be done for its effective implementation.

**Keywords:** Burnout. End-of-life care. Intervention program.

### SYMPOSIUM: FROM PATHOGENESIS TO SALUTOGENESIS: ADVANCING HEALTH LITERACY IN HEALTH PROMOTION AND PRIMARY PREVENTION

**Coordinator:** Paulo Pinheiro, Faculty of Educational Science, Bielefeld University, Germany, Socialisation Research Unit, paulo.pinheiro@uni-bielefeld.de

#### Incorporate Communications

### LITERACY ON MENTAL HEALTH FROM PRESCHOOL TO HIGH SCHOOL – ADDRESSING THE TEACHERS TO PROMOTE CHILD MENTAL HEALTH

Agar Almeida<sup>a</sup>, Paulo Pinheiro<sup>a</sup>, Orkan Okan<sup>c</sup>, Ullrich Bauer<sup>b</sup>,  
Anabela Pereira<sup>a</sup>, Rosa Gomes<sup>a</sup>

<sup>a</sup>*University of Aveiro, Portugal;* <sup>b</sup>*University of Bielefeld, Germany;* <sup>c</sup>*University of Duisburg-Essen, Germany.*

Contact details: [agaralmeida@ua.pt](mailto:agaralmeida@ua.pt)

**Introduction:** In the recent past, health literacy has gained renewed attention in- and outside health care and been recognized a promising target for health promotion/disease prevention. Access to the school setting to promote the mental health literacy of teachers and thus enhance health-promoting potentials of children is however poor. We, therefore, intend to develop, test, and implement programmes to promote mental health literacy on child issues of teachers/educators.

**State of the art:** We understand mental health literacy as knowledge and beliefs about mental disorders which help their recognition, management or prevention. Literature's screening highlights poor information on health literacy in childhood and adolescence and calls for research activities (DeWalt & Hink, 2009). With regard to the development of mental disorders in childhood/adolescence, schools can have a protective function, but also create risk potentials. There is an at best informal awareness of mental health issues of the students. Teachers are rarely able to decode phenomena as symptoms of a risk situation, are not equipped with professional skills to adequately respond to this (Powell, 2007) and to provide suitable support (Wagner et al, 2009).

**New perspectives/guidelines:** To target the adults' mental health literacy with respect to issues of child health is novel in the debate on health promotion and can help to fill important gaps. Theoretical and practical implications: Development of a theoretical framework on mental health literacy in childhood/adolescence and implementation and evaluation of training tools for teachers/educators.

**Conclusions:** Promoting teachers' mental health literacy about child health issues is an innovative but reasonable approach to promote child mental health.

**Keywords:** Mental health literacy. Teacher training. Schools.

### NEGLECTED HEALTH AND LITERACY CONCEPTS IN CURRENT HEALTH LITERACY RESEARCH AND THEIR POTENTIALS FOR FUTURE ACTIVITIES

Orkan Okan, Ullrich Bauer, Paulo Pinheiro

*University of Bielefeld, Germany.*

Contact details: [orkan.okan@uni-due.de](mailto:orkan.okan@uni-due.de)

**Introduction:** Health literacy (HL) is composed of two separate and independent concepts, health and literacy. The aim of this project is to highlight the variety of recent results in health and

literacy research. Behind both concepts, there are many different theoretical frameworks, that yet haven't been taken into account for framing HL, but could be of significance for child and adolescent HL.

**State of the art:** Contemporary HL models are mostly restricted to adults. They often make use of medical health models and cognitive literacy theories. Such models implicitly neglect that both, health and literacy, are having many different meanings and definitions, which are of interest when developing theoretical or conceptual HL frameworks. Recent health research is offering asset based health approaches besides risk based approaches, and models distinguishing between a focus on individuals, communities, and the public or whole populations. Furthermore these approaches can evolve in different settings. What applies for health also applies for literacy, the theoretical literacy framework is as multi-faceted as the health framework. There are three major theories representing different literacy perspectives, these are the cognitive, psycholinguistic, and sociocultural theories.

**New perspectives:** The results will help to broaden the HL concept and address children and adolescent.

**Implications:** Theoretical work and evidence from the field studies will be of help when creating health literacy theories and models for children and adolescents. Those models will result from an examination of the relationship between health, literacy, and HL.

**Conclusions:** Within this project a conceptual framework will be created that allows for tying HL with different health and literacy models.

**Keywords:** Health. Literacy. Framework. Children. Adolescents.

### RETHINKING HEALTH LITERACY (HL): THE POTENTIALS OF THE SALUTOGENIC APPROACH FOR DEFINING HL IN CHILDHOOD AND ADOLESCENCE

Orkan Okan<sup>a</sup>, Luís Saboga-Nunes<sup>b</sup>, Ullrich Bauer<sup>c</sup>, Paulo Pinheiro<sup>c</sup>

<sup>a</sup>University of Bielefeld, Germany; <sup>b</sup>National School of Public Health, New University Lisbon, Portugal; <sup>c</sup>University of Bielefeld, Germany.

Contact details: orkan.okan@uni-due.de

**Introduction:** The purpose of this research is grounded on the development of comprehensive health- and mental health literacy concepts adapted to children/adolescents based on the salutogenic approach.

**State of the Art:** Health literacy (HL) is an important social determinant of health and considered a promising target for health promotion. In the past, most of the research into HL has been conducted in health care settings and has mainly made use of health definitions restricted to a disease oriented meaning. Much of the contemporary debate on HL is, however, clearly indicating that alternative health concepts are far more appropriate. Public health efforts to redefine and broaden HL are using holistic views of health. Here, the potentials of the salutogenic approach have yet not been discussed, even if there is evidence that health promotion can be effectively implemented when using the salutogenic way. Studies conducted in different cultures emphasize that the adaption of salutogenesis results in better health, good quality of life and mental health.

**New perspectives:** The research aims to connect a salutogenic framework with HL and mental HL targeting children and adolescents. This will also allow for developing tools for the assessment and monitoring of HL and mental HL when used in health promotion and primary prevention.

**Theoretical and practical implications:** Findings from this project will be of interest for scientific and non-scientific audiences as well as for policy-makers in public health, health promotion, and education. The international collaboration will support transcultural adaptation, capacity building and academic networking.

**Conclusions:** The results will highlight the benefits of the salutogenic framework for HL concepts in childhood and adolescence.

**Keywords:** Health literacy. Child health. Salutogenesis.

### HEALTH PARADIGMS, HEALTH LITERACY AND POLICY: DRIVING THE WHEEL OF PUBLIC HEALTH REFORM

Luís Saboga-Nunes

Escola Nacional de saúde Pública, Universidade Nova de Lisboa, Portugal.

Contact details: saboga@ensp.unl.pt

**Introduction:** People with lower health literacy (HL) are less able to care of themselves and use more healthcare services. A paradigm shift (from pathogenesis to salutogenesis) is considered to address HL deprivation.

**Objectives:** This research presents the first comparative results of the European Health Literacy Survey (HLS-EU-PT) in the Portuguese context.

**Methods:** A quantitative and qualitative explanatory cross-correlated study based on the HLS-EU/HLS-EU-PT with a sample of 7380+983 from eight countries (+Portugal) (PT) is considered.

**Results:** Of the 8 participating countries, PT had the second lowest level of inadequate HL, after Belgium (as for the 8 countries is 12.4%). For problematic HL the value of 36.3% could be seen as of the same relevance as for the other countries (35.2%). In PT, 29.3% had sufficient HL (for 36.0% in other countries) and 10.7% (for 16.5% in the 8 countries) for excellent HL. All countries displayed positive correlations between HL and education, self-assessed social status, Newest Vital Sign score. All countries displayed negative correlations between HL and financial deprivation or self-assessed health.

**Conclusions:** Governance of social and health systems should lead health professionals, authorities or politicians to contribute to the reinforcement of comprehensibility, manageability and meaningfulness, as the paradigm of social action reinforces the Sense of Coherence (SOC). HL should be included in the education and evaluation of health care practitioners. Health education and its assessment needs to be integrated into the school curricula from the earliest years. Efforts to identify individuals with poor HL at the point of entry to the health system is needed and steps should be taken to counter this risk factor.

**Keywords:** Functional & Health literacy. HLS-EU-PT validation.

### MEASURING THE SENSE OF COHERENCE IN ADOLESCENTS: RESULTS FROM PORTUGAL

Luís Saboga-Nunes<sup>a</sup>, Emanuel Rodrigues<sup>b</sup>

<sup>a</sup>Escola Nacional de Saúde Pública, Universidade Nova de Lisboa, Portugal; <sup>b</sup>Departamento de Epidemiologia INSA, Portugal.

Contact details: saboga@ensp.unl.pt

**Introduction:** Cigarettes use by Portuguese (PT) adolescents (PAdo) increases with age: 15% taking up the habit at 11, 40% at 13 and 62% at 15 years of age. Smoking prevention interventions developed in PT have no clear efficacy results.

**Objectives:** The aim of this research is to analyze PAdo' sense of coherence (SOC) and self-concept in association with non-smoking habits, while tackling health promotion strategies. The discussion about the relevancy of considering PAdo's SOC as a basis for intervention is focused.

**Methods:** Instruments used were PT validated (SOC/29 survey, Piers-Harris Children's Self-Concept Scale and the Global Youth Tobacco Survey) to collect data. Ethical procedures were guaranteed in a cross selection of a sample of 1155 participants from schools that filled a pencil-and-paper questionnaire.

**Results:** There is a statistically significant association between a higher SOC and non-smoking habits ( $P = -0.14$ ;  $p \leq 0.01$ ). The use of the validated SOC instrument (Cronbach alpha = 0.83; 29 items) is revealed as feasible with PAdo to access new strategies for intervention. Self-concept (namely the behavioural aspect dimension) is relevant ( $r = -0.289$ ;  $p \leq 0.01$ ) in this context.

**Conclusions:** Results enhance the reliability, validity, internal validity, statistical validity longitudinal and linguistic validity, as land marks of the translation and validation process to use the SOC survey with PAdo. Further research should focus on SOC development in PAdo. WHO (Health21) sets 2020 as a target date to improve young's people health: "Health is created if people are confident that life is manageable and meaningful... as a SOC and belonging must be built up". Identification of strategies for enhancing efforts to curb PAdo' smoking behaviors could include the SOC.

**Keywords:** Salutogenesis. Sense of coherence. Smoking.

### THE CHALLENGES OF EPISTEMOLOGICAL VALIDATION TO BRAZIL OF THE EUROPEAN HEALTH LITERACY SURVEY (HLS-EU-BR)

Rosane Martins<sup>a</sup>, Luís Saboga-Nunes<sup>b</sup>

<sup>a</sup>CAPES Scholarship from caase n<sup>o</sup> BEX 10943-13-7, Federal University of Triângulo Mineiro, UFTM Uberaba, MG, Brasil; <sup>b</sup>National School of Public Health, Universidade Nova de Lisboa, Portugal.

Contact details: drarosane.martins@gmail.com

**Introduction:** Cross-cultural adaptation and validation of the European Health Literacy Survey (HLS-EU) to Brazil (HLS-EU-BR) faces semantic and philological hindrances since the concept is non-existent in the Brazilian culture. This research aims at exploring its epistemological validation since HL may help promote healthier communities while fighting health disparities.

**Methods:** After permission was granted from the HL European Consortium, the TRAPD model was used with the Haccoun technique. The final version of the HLS-EU-BR protocol kept original dimensions and items of HLS-EU-Q86. A snow ball sampling method based on social networks collected data from 134 participants in the first attempt to measure HL in Minas Gerais.

**Results:** A cross-correlated study indicated internal consistence reliability (Cronbach's alpha coefficient is 0.91 for Health Care, 0.94 for Disease Prevention and 0.92 to Health Promotion and 0.97 to the global HLS-EU-BR instrument. Inadequate health literacy (HL) (20.6%) and problematic HL (41.3%) show that about 52% of respondents have limited HL.

**Conclusions:** These preliminary results enhance the reliability, validity, internal validity, statistical validity longitudinal and linguistic validity, as land marks of the translation and validation process to Brazilian-Portuguese of the HLS-EU survey. Further research will need to include different regions. The usefulness of the HLS-EU-BR instrument can be further discussed while planning public health policy strategies from the HL standpoint. The validated HLS-EU-BR version of the HLS-EU survey, with the user's manual can be accessed from [www.literacia-saude.info](http://www.literacia-saude.info).

**Keywords:** Health literacy. HLS-EU-BR validation.

### SYMPOSIUM: EUROPEAN HEALTH LITERACY SURVEY AND ITS TRANSLATION TO PORTUGAL (HLS-EU-PT): THE RESEARCH OF TRANSCULTURAL VALIDATION AND APPLICATION SETTINGS

**Coordinator:** Luis A. Saboga-Nunes, Escola Nacional de Saúde Pública – Universidade Nova de Lisboa, [saboga@ensp.unl.pt](mailto:saboga@ensp.unl.pt)

#### Incorporate Communications

#### HEALTH LITERACY IN CHILDHOOD & ADOLESCENCE AS A TARGET FOR HEALTH PROMOTION AND PRIMARY PREVENTION - THE HLCA-CONSORTIUM

Paulo Pinheiro<sup>a</sup>, Orkan Okan<sup>a,d</sup>, Susanne Jordan<sup>b</sup>, Albert Lenz<sup>c</sup>, Fabian Kessl<sup>d</sup>, Jürgen Wasem<sup>d</sup>, Eva-Maria Bitzer<sup>e</sup>, Uwe H. Bittlingmayer<sup>e</sup>, Pablo Zamora<sup>a,d</sup>, Ullrich Bauer<sup>a</sup>

<sup>a</sup>University of Bielefeld, Germany; <sup>b</sup>Robert Koch Institute Berlin, Germany; <sup>c</sup>Catholic University of Applied Sciences of Paderborn, Germany; <sup>d</sup>University of Duisburg-Essen, Germany; <sup>e</sup>University of Education Freiburg, Germany.

Contact details: [paulo.pinheiro@uni-bielefeld.de](mailto:paulo.pinheiro@uni-bielefeld.de)

**Introduction:** Health literacy (HL) has been acknowledged to be both a social determinant of health and a promising target for interventions not only in disease treatment, but also in health promotion and disease prevention. Screening of literature, however, reveals that children and adolescents have poorly been included into HL research. Gaps encompass prevalence data, definitions and concepts, and the formulation of needs and demands on HL for children and adolescents.

**New perspectives:** Here, we present the "Health Literacy in Childhood and Adolescence - HLCA" consortium that was launched in 2013 and will be funded as part of the new German action plan for research into health promotion and disease prevention from 2015–2018. The HLCA consortium takes a multidisciplinary approach and aims at contributing to a comprehensive understanding of HL in children/adolescents by developing, adjusting, implementing, and evaluating theoretical, conceptual and methodological HL approaches. Our strategy includes an equally targeting of the HL of adults and systems with impact on child development. The HLCA consortium consists of ten projects grouped by topics into three work blocks (WB): Basic research (WB1); Applied research on mental health literacy (WB2) and eHealth literacy (WB3). There will be two regional clusters in two German federal states. A Steering Committee will act as supervisory body and will be responsible for assuring and monitoring the consortium's progress. The consortium will be backed by a scientific and a stakeholder advisory board.

**Conclusions:** The HLCA initiative is a unique opportunity to enlighten the importance of HL for health promotion and primary prevention in childhood and adolescence and to substantially contribute to the understanding of the topic.

**Keywords:** Health literacy. Child health. Health promotion.

#### PROMOTING MENTAL HEALTH LITERACY OF TEACHERS TO PROMOTE MENTAL HEALTH OF CHILDREN AT RISK – A TEACHER TRAINING PROGRAM

Paulo Pinheiro<sup>a,b</sup>, Peter Fröhlingsdorf<sup>b</sup>, Michael Rehder<sup>c</sup>, Ullrich Bauer<sup>a,b</sup>

<sup>a</sup>University of Bielefeld, Germany; <sup>b</sup>Center for Prevention and Intervention in Childhood and Adolescence CPI, Minden, Germany; <sup>c</sup>University of Duisburg-Essen, Germany.

Contact details: [paulo.pinheiro@uni-bielefeld.de](mailto:paulo.pinheiro@uni-bielefeld.de)

**Introduction:** Children of mentally-ill parents are a population at high risk for the development of mental disorders. Psychosocial

burdens resulting from the parental disease play an essential role in the transgenerational transmission and can be tackled with health promoting and primary preventing programs. In Germany, it is estimated that about 3 million children and adolescents experience every year at least one parent with a mental disorder. This is about a quarter of students in German schools. The highly different burden patterns and attempts at coping also become manifest in the children's school lives and can range from difficulties in academic achievements to the occurrence of a problematic educational biography.

**New perspectives:** Schools can play an important protective role but also create new risk potentials. In schools, however, there is at best an informal awareness of this problem. Teachers are not equipped with skills to adequately respond to this particularly stressful life situation. They are not able to decode such phenomena as symptoms of a particular risk situation and have a limited repertoire of actions to point to appropriate support. It is obvious that such a practice is insufficient for children in special life situations. So far, there has been no access to the (pre)school setting to promote the mental health literacy of teachers in order to enhance the primary preventive and health-promoting potentials of children.

**Conclusions:** To target the adults' mental health literacy with respect to issues of child health is novel in the debate on health promotion at school and can help to fill important gaps. We present a further education and training program for teachers and educators that was developed and tested in order to approach these gaps.

**Keywords:** Mental health literacy. School health promotion.

## PRIMARY SCHOOL TEACHERS' AND PUPILS' HEALTH LITERACY IN THREE DISTRICTS OF PORTUGAL

Ester Lopes<sup>a</sup>, Rosa Branca Tracana<sup>a,b</sup>, Graça S. Carvalho<sup>a</sup>

*CIEC, University of Minho, Braga, Portugal; <sup>b</sup>Institute Polytechnic of Guarda, Guarda, Portugal.*

*Contact details: lopes.ester@outlook.com*

The European project HEPCOM (Promoting Healthy Eating and Physical Activity in Local Communities) supported by the EU's Health Programme (2008-2013) is the structural backbone to consider the role of health literacy in health promotion. The aim of HEPCOM is to increase the quality and level of local community and school interventions all over Europe on promoting healthy eating and physical activity among children and young people. For this a platform has been constructed to promote the actual use and up scaling of the existing high quality tools, making them easy accessible and usable to incorporate in the daily work of policy makers and professional practitioners. The target audience includes policy makers and professional practitioners that directly benefit from the project, as they will gain knowledge and inspiration from the learning platform (launched recently for experimental testing, September 2014), which can assist them to improve their daily work with health promotion. Therefore it will also have an impact in children and young people and their families. The 21 HEPCOM partners, coming from 16 EU countries, are closely collaborating with local communities. In Portugal we are working with three Municipalities: Braga, Esposende and Guarda. In the sequence of the HEPCOM project, the Portuguese version of the European Health Literacy Scale "HLS-EU-PT: [www. http://literacia-saude.info/](http://literacia-saude.info/)" will be applied to primary school teachers and pupils of the above three municipalities in order to find out any putative differences in health literacy. Specific solutions will be designed and applied in order to solve critical health literacy deficiencies found in these municipal communities.

**Keywords:** Local communities. Health literacy HLS-EU-PT. Primary school.

## CROSS-CULTURAL ADAPTATION AND VALIDATION TO PORTUGUESE OF THE EUROPEAN HEALTH LITERACY SURVEY (HLS-EU-PT)

Luís Saboga-Nunes<sup>a</sup>, Kristine Sørensen<sup>b</sup>, Juergen Pelikan<sup>c</sup>, Madalena Cunha<sup>d</sup>, Emanuel Rodrigues<sup>e</sup>, Eleonora Paixão<sup>f</sup>

*<sup>a</sup>Escola Nacional de Saúde Pública, Universidade Nova de Lisboa;*

*<sup>b</sup>Maastricht University, Países Baixos; <sup>c</sup>Ludwig Boltzmann*

*Institute Health Promotion Research, Austria; <sup>d</sup>Health School/*

*Polytechnic Institute of Viseu, Portugal; <sup>e</sup>Departamento*

*de Epidemiologia INSA; <sup>f</sup>Administração Regional de Saúde do Alentejo IP, Portugal.*

*Contact details: saboga@ensp.unl.pt*

**Introduction:** Defining health literacy (HL) as reading skills in the clinical setting is too narrow. Citizens need many additional skills. Recently a new instrument to measure HL (HLS-EU) was introduced by the European HL Consortium.

**Objectives:** This research presents the national data of the validation process of the European Health Literacy Survey (HLS-EU) in the Portuguese context, HLS-EU-PT, and results of HL in a sample of portuguese speaking individuals.

**Methods:** A quantitative and qualitative explanatory cross-correlated study based on a sample of 983 individuals from Portugal (mainland) was collected following random and route procedures.

**Results:** Reliability analysis of HLS-EU-PT dimensions show an internal consistence (Cronbach's alpha coefficient) of 0.93 (Health Care), 0.932 (Disease Prevention) and 0.934 (Health Promotion), while the global instrument presents a value of 0.97. Inadequate HL (24%) and problematic HL (36%) show that about 60% of respondents have limited HL. Functional HL (FHL) is strongly limited for 30%, while 43% show limited FHL. There is an association between HL and an healthy life style.

**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. The usefulness of the HLS-EU-PT instrument can be further discussed while planning public health policy strategies from the HL standpoint while considering social inequalities. The validated HLS-EU-PT Portuguese version of the HLS-EU survey, can be accessed at [www.literacia-saude.info](http://www.literacia-saude.info).

**Keywords:** Functional & Health literacy. HLS-EU-PT validation.

## LITERACY FOR HEALTH: ENVIRONMENTAL HERITAGE, PROTECTOR OF NUTRITIONAL STATUS

Madalena Cunha<sup>a</sup>, Luís Saboga Nunes<sup>b</sup>, Emanuel Rodrigues<sup>c</sup>, Eleonora Paixão<sup>d</sup>, Raquel Gaspar<sup>a</sup>, Sónia Fonseca<sup>a</sup>, Dina Almeida<sup>a</sup>, Mónica Silva<sup>a</sup>

*<sup>a</sup>Health School, Polytechnic Institute of Viseu, Portugal;*

*<sup>b</sup>National School of PublicHealth, Lisbon, Portugal;*

*<sup>c</sup>Departamento de Epidemiologia INSA; <sup>d</sup>Estatista,*

*Administração Regional de saúde do Alentejo IP, Portugal.*

*Contact details: madac@iol.pt*

**Introduction:** Literacy for health (LH) may be considered a set of skills that people appropriate, understand, evaluate and use information and knowledge of health to make informed choices, reduce risks to their health, maintain a healthy nutritional status and enhance quality of life.

**Objectives:** To assess the level of literacy for health; to classify Body Mass Index (BMI), abdominal circumference (AC) and the Perimeter Circumference of Neck (PCN).

**Methods:** A descriptive, cross-sectional study conducted with a convenience sample of 508 participants (52.2% men and 47.8%

women), with an average age of 44.48 years (SD = 21 years) living in centre and north of Portugal. LH was assessed by the European Questionnaire on Literacy for Health (HLS-EU-PT) validated in Portuguese by Saboga-Nunes and Sorensen (2013) and the assessment of BMI, AC and PCN followed the benchmark accepted in Portugal, DGS (2013).

**Results:** It was found that 73.62% of participants have an inappropriate and problematic level of literacy for health. Participants with inadequate LH had a higher BMI (Chi Square = 78.09;  $p = 0.000$ ; MR = 322.62;  $p = 0.000$ ), greater AC (MR = 331.29;  $p = 0.000$ ) and greater PCN (MR = 268.04;  $p = 0.016$ ) i.e., worse nutritional status, hence we may infer that less literate people presented risks to a state of optimal health.

**Conclusions:** The results show that the increase in literacy for health represents a decrease in BMI, AC and PCN. LH is therefore assumed to be one of the interdependent determinants of multifactorial causality of nutritional status with repercussions on the state of health. Thus, including promotion of LH is pertinent in the strategic development of Portuguese public health.

**Keywords:** Literacy for health. Nutritional status.

### ADOLESCENTS HEALTH LITERACY IN THE PORTUGUESE CONTEXT: THE CRADLISA PROJECT (HLS-EU-PT)

Gabriela Cavalheiro<sup>a</sup>, Luís Saboga-Nunes<sup>b</sup>, Paulo Pinheiro<sup>c</sup>, Ullrich Bauer<sup>c</sup>, Orkan Okan<sup>d</sup>

<sup>a</sup>Escola Secundária de Bocage, Setúbal; <sup>b</sup>Escola Nacional de Saúde Pública, Universidade Nova de Lisboa, Portugal; <sup>c</sup>University of Bielefeld, Germany; <sup>d</sup>University of Duisburg-Essen, Germany.

Contact details: [gabriela.cavalheiro@sapo.pt](mailto:gabriela.cavalheiro@sapo.pt)

**Introduction:** Health literacy (HL), a relevant social determinant of health, is seldom considered at early ages, like adolescence. HL research focus on adults in health care settings and has mainly made use of health definitions restricted to a disease oriented meaning.

**Objectives:** The purpose of this research is to explore the potential of existing tools to measure adolescents HL (CrAdLiSa project) on the development of comprehensive instruments that may help path the way to health promotion initiatives. Special focus is given to HLS-EU-PT, the portuguese version of the European Health Literacy Survey instrument ([www.literacia-saude.info](http://www.literacia-saude.info)) that has been validated to measure HL in the Portuguese context.

**Methods:** A quantitative and qualitative explanatory cross-correlated study based on a sample of 138 adolescents from the southern of Portugal was collected in a school setting, after ethical procedures were followed.

**Results:** Reliability analysis of HLS-EU-PT dimensions show an internal consistence (Cronbach's alpha coefficient) of 0.938 (Health Care), 0.945 (Disease Prevention) and 0.947 (Health Promotion), while the global instrument presents a value of 0.974. Inadequate HL (2.1%) and problematic HL (32.9%) show that about 35% of respondents have limited HL.

**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. The usefulness of the HLS-EU-PT instrument can be further discussed while planning health promotion initiatives in the schools settings. Further research must consider discriminatory items potential to evaluate HL at this age with HLS.

**Keywords:** Health literacy. HLS-EU-PT. Adolescent health.

### SYMPOSIUM: ORAL HEALTH IN CHILDREN AND ADOLESCENTS: A PUBLIC HEALTH ISSUE

**Coordinator:** Nélcio Jorge Veiga, Universidade Católica Portuguesa Ciência da Saúde (UCP); Instituto Politécnico de Viseu, CI&DETS (IPV), [nelioveiga@gmail.com](mailto:nelioveiga@gmail.com)

#### Incorporate Communications

#### DENTAL ANXIETY – THE IMPORTANCE OF ITS MANAGEMENT IN DENTAL APPOINTMENTS AND THE INFLUENCE ON CHILDREN'S ORAL HEALTH

Diana Montagna<sup>a</sup>, Andreia Figueiredo<sup>a</sup>, Nélcio Veiga<sup>a,b</sup>

<sup>a</sup>Health Science Department, Portuguese Catholic University, Viseu, Portugal; <sup>b</sup>CI&DETS – Polytechnic Institute of Viseu, Portugal.

Contact details: [nelioveiga@gmail.com](mailto:nelioveiga@gmail.com)

**Introduction:** The management of dental anxiety in children during a dental appointment is essential to the further success of dental treatments and to reduce the negative impact on child's oral condition.

**Objectives:** Assess levels of anxiety expressed by children during dental treatments and the degree of pain described in the same clinical context, in order to relate them with previous experiences and other etiologic factors.

**Methods:** A cross-sectional study was conducted in a sample of 59 children from 8 to 14 years, who attended the Pediatric Dentistry appointments at the Dental Clinic of the Portuguese Catholic University in Viseu, Portugal. Data collection was accomplished by applying a questionnaire with questions about socio-demographic and oral health variables and also included two self-reported scales to measure anxiety and pain: Faces Version of the Modified Child Dental Anxiety Scale and Wong-Baker Faces Pain Scale. The decayed, missing and filled teeth index for permanent and deciduous teeth (DMFT and dmft index) was assessed.

**Results:** Overall, 76% of the sample showed slight anxiety. Children between 8 and 11 years have a higher level of anxiety compared to those aged over 12 years. It was shown the impact of previous negative experiences in subsequent appointments ( $p < 0.001$ ), in addition to increased susceptibility to pain ( $p < 0.01$ ). The injection of local anesthesia has been shown responsible for 90% of anxiety and pain symptoms in children. Regarding oral condition, there was no relation between anxiety and the DMFT and dmft indexes.

**Conclusions:** Anxious and uncooperative behaviour in the pediatric dental appointments occur in early ages. Additionally, the more invasive dental procedures are associated with higher expression of anxiety and pain.

**Keywords:** Dental anxiety. Pain. Self-reported scales. Pediatric dentistry. Oral health.

#### DENTAL CARIES RISK ASSESSMENT IN A PORTUGUESE SAMPLE OF 6-YEAR-OLD SCHOOLCHILDREN

Joaquim Gonçalves<sup>a</sup>, Nélcio Veiga<sup>a,b</sup>, Cláudia Ribeiro<sup>a</sup>, Carlos Pereira<sup>b</sup>, Odete Amaral<sup>b</sup>

<sup>a</sup>Health Science Department, Portuguese Catholic University, Viseu, Portugal; <sup>b</sup>CI&DETS - Polytechnic Institute of Viseu, Portugal.

Contact details: [nelioveiga@gmail.com](mailto:nelioveiga@gmail.com)

**Introduction:** The National Program for the Promotion of Oral Health defines a set of goals, in terms of oral health, recognizing the importance of assessing the risk of dental caries.



**Objectives:** Assess the individual risk of dental caries and associated oral health behaviors in a sample of sex-year-old children.

**Methods:** A cross-sectional observational epidemiological study was carried out in a sample of 221 six-year-old children of the Group of Schools Diogo Cão, Vila Real. An intra-oral observation was performed and a self-administered questionnaire about the children oral health behaviors was applied to the parents. To determine the association between the risk of dental caries and oral health behaviors the Chi-square test, with a significance level of 5% was applied.

**Results:** It was found that 61.1% of the children had a high risk of dental caries. The decayed, missing and filled index for deciduous teeth (dmft index) was 1.93 and 52% of the children were caries free. Statistical significant associations were found between the risk of dental caries and the level of education completed by fathers/mothers of children ( $p < 0.001$ ), consumption of cariogenic foods ( $p < 0.001$ ) and poor oral hygiene ( $p < 0.001$ ). Only 14.9% of children brushed their teeth at school after lunch and only 48.4% learned to brush their teeth at school.

**Conclusions:** It seems important that schools develop more projects and practical activities of oral health, with special emphasis on the daily toothbrushing at school. Progress in terms of oral health, has been very little. Thus, if there isn't a turn around, we will hardly reach the appointed value prescribed by the World Health Organization for the year 2020 in Europe, which is 80% of children free of caries at 6 years of age.

**Keywords:** Carie-risk assessment. Oral health. Children. National Program for the Promotion of Oral Health.

## ORAL MICROFLORA AND ORAL DISEASES IN A SAMPLE OF PORTUGUESE CHILDREN

Veronique Gomes<sup>a</sup>, Nélio Veiga<sup>a,b</sup>, Sara Sousa<sup>a</sup>, Maria José Correia<sup>a</sup>

<sup>a</sup>Health Science Department, Portuguese Catholic University, Viseu, Portugal; <sup>b</sup>CI&DETS - Polytechnic Institute of Viseu, Portugal.

Contact details: [nelioveiga@gmail.com](mailto:nelioveiga@gmail.com)

**Introduction:** The knowledge of the prevalence of dental caries in children leads us to adopt an increasing set of preventive measures allowing control not only of the etiological factors of the disease, but also to decrease its incidence. Knowledge of oral microflora and exploitation of alkalizing potential of some oral bacteria are a promising strategy with regard to the prevention of dental caries.

**Objectives:** This study aims to assess the behavior and oral health status of children participating by studying the association between oral health status of children and the presence of *Streptococcus mutans*, *Streptococcus gordonii* and *Streptococcus salivarius*.

**Methods:** An observational cross-sectional epidemiological study was conducted with 189 children aged 6 to 10 years old. A questionnaire was given to parents regarding oral hygiene behaviors of participating children. We conducted an intraoral observation to determine the decayed, missing and filled deciduous and permanent teeth indexes (dmft/DMFT indexes). Finally, the collection and molecular analysis of oral biofilm was accomplished.

**Results:** From the 70 participating children, 36.8% have a dmft index = 0, 44.2% a dmft index between 1-3 and 18.4% more than 3. We verified that 71.6% of children has a DMFT index = 0, 24.7% a DMFT index between 1 and 3 and 3.7% more than 3. This study also demonstrated that children who have dental caries are colonized by *Streptococcus mutans* 80% of the time. However, 85.7% of the children who did not have dental caries were colonized by *Streptococcus gordonii* and *Streptococcus salivarius*.

**Conclusions:** This study establishes a possible association between the absence of dental caries and the colonization by *Streptococcus gordonii* and *Streptococcus salivarius*.

**Keywords:** Dental caries. Oral biofilm. *Streptococcus gordonii*. *Streptococcus salivarius*. *Streptococcus gordonii*.

## PREVALENCE OF DENTAL CARIES AND FISSURE SEALANTS IN A PORTUGUESE SAMPLE OF ADOLESCENTS

Nélio Veiga<sup>a,d</sup>, Carlos Pereira<sup>b</sup>, Odete Amaral<sup>b</sup>, Cláudia Chaves<sup>b</sup>, Paula Nelas<sup>b</sup>, Manuela Ferreira<sup>b</sup>, Paula Ferreira<sup>c</sup>, Ilídio J. Correia<sup>d</sup>

<sup>a</sup>Health Sciences Department, Universidade Católica Portuguesa, Viseu, Portugal; <sup>b</sup>CI&DETS - Polytechnic Institute of Viseu, Portugal; <sup>c</sup>CIEPQPF, Chemical Engineering Department, University of Coimbra, Portugal; <sup>d</sup>Health Sciences Research Centre, Health Sciences Faculty, Beira Interior University, Covilhã, Portugal.

Contact details: [nelioveiga@gmail.com](mailto:nelioveiga@gmail.com)

**Introduction:** The use of fissure sealants is an effective intervention for the primary prevention of pit and fissure dental caries in children and adolescents.

**Objectives:** The aims of this study were to assess the prevalence of dental caries, as well as the distribution pattern of pit and fissure sealants on permanent teeth in a Portuguese sample of adolescents. **Methods:** A cross-sectional study was designed with a sample of 447 adolescents aged 12 to 18 years old, attending a public school in Sátão, Portugal. A self-administered questionnaire was answered by adolescents in the classroom. Clinical examination of oral health status and assessment of fissure sealants were accomplished.

**Results:** We obtained a DMFT index of  $3.32 \pm 2.92$ , which indicates a moderate level of prevalence of dental caries. When considering a DMFT = 0, we found significant statistical differences between the parents' level of education ( $\leq$  4th grade = 26.3 vs 5th-12th grade = 18.8 vs  $>$  12th grade = 43.3;  $p = 0.001$ ), gender (male = 27.3 vs female = 19.6;  $p = 0.04$ ) and presence of fissure sealants (yes = 30.6 vs no = 13.5;  $p = 0.001$ ). When analyzing the prevalence of fissure sealants, we verified that 58.8% of adolescents had at least one fissure sealant applied. Significant statistical differences were found when analyzing the presence of fissure sealants related with parents' educational level ( $>$  9th grade, OR = 1.56 CI95% = 1.05-2.54), gender (female, OR = 1.86 CI95% = 1.19-2.98) and presence of dental caries (yes, OR = 0.35 CI95% = 0.19-0.65).

**Conclusions:** The moderate level of caries prevalence found in this study reveals the need of improvement of primary prevention interventions among Portuguese adolescents. The establishment of a more targeted preventive program with better and more effective oral health education is essential.

**Keywords:** Dental caries. Fissure sealants. Oral health. Adolescents.

## THE INFLUENCE OF PARENTS' EDUCATIONAL LEVEL IN CHILDREN'S ORAL HEALTH BEHAVIORS

André Ardérius<sup>a</sup>, Nélio Veiga<sup>a,b</sup>, Cláudia Ribeiro<sup>a</sup>, Maria Godinho<sup>a</sup>

<sup>a</sup>Health Science Department, Portuguese Catholic University, Viseu, Portugal; <sup>b</sup>CI&DETS - Polytechnic Institute of Viseu, Portugal.

Contact details: [nelioveiga@gmail.com](mailto:nelioveiga@gmail.com)

**Introduction:** The impact of oral health in people's quality of life has received an increasing attention by health professionals. Prevention should begin, preferentially, within the family aggregate and continue at school, in order to teach children and adolescents adequate oral health behaviors.

**Objectives:** To assess children's oral health status and analyze the association with their parents' educational level.

**Methods:** We conducted an epidemiological, observational, cross-sectional study in a sample of 499 children aged between 3 and 11 years old from nursery and primary schools of Nelas, Portugal. Data was collected in two phases: firstly, by questionnaires directly applied to parents about their children and the household's oral hygiene habits and then, through an intraoral observation that

allowed us to assess the decayed, missing and filled deciduous teeth index (dmft index) and fissure sealants' prevalence of the studied sample.

**Results:** Four variables were significantly associated with the parents' educational level: toothbrushing frequency ( $p = 0.015$ ), toothbrushing duration ( $p = 0.018$ ), parental help during toothbrushing ( $p = 0.012$ ) and the frequency of dental appointments during the last twelve months ( $p = 0.012$ ). As for dmft index and the number of fissure sealants we have not found a statistical significant association of the results obtained.

**Conclusions:** The parents' educational level is an important factor that influences the oral health behaviours of their children. This can be justified by the fact that a higher level of education permits the acquisition of higher levels of knowledge and information about healthy daily habits.

**Keywords:** Oral Health. Fissure sealants. Dental caries. Children. Education.

## SYMPOSIUM: RESEARCH IN PALLIATIVE CARE: CONTRIBUTIONS TO BEST PRACTICES OF CARING

**Coordinator:** Madalena Cunha, Health School/Polytechnic Institute of Viseu, Portugal, madac@iol.pt

### Incorporate Communications

#### HEALTH CARE PROFESSIONALS PERCEPTION FACING THE SAFETY OF PATIENTS INPATIENT IN PALLIATIVE CARE UNITS

Olivério Ribeiro, Ana Luísa Ferreira, Ana Sílvia Ferreira, Daniela Venício, Sara Fernandes, Stéfanie Carrulo

*Health School of Viseu, Portugal.*

*Contact details: oribeiro@essv.ipv.pt*

**Introduction:** Due to the quality of life and health cares improval, the average life expectancy increased with a consequent increase in chronic and progressive diseases. (Neto, 2010). The growing number of Palliative Care Units in Portugal lead to the need of understanding what are the security numbers in what concerns cares in the health units and the occurrence of mistakes/accidents with the patient.

**Goals:** To analyze the influence of the health professionals' socio-demographic and professional variables on the occurrence of incidents/mistakes compromising the patient safety.

**Methods:** Transversal study with a descriptive-correlational focus. The "Questionnaire of Patient Safety", from the author Olivério Ribeiro (2014) and collaborators, was used (the reliability was verified by the Cronbach's alpha 0.771). The sample consisted of 146 professionals from units with chronic and palliative patients.

**Results:** The younger professionals ( $\leq 27$  years), female gender and postgraduates/specialists are those who observe more frequently the incidents/mistakes, and so are the professional working in "Health Units" (O.M. 74.29;  $p = 0.000$ ). On the other hand, "Palliative Care Units" are those who less incidents/mistakes observe (O.M. 37.53;  $p = 0.001$ ). The "degree of seriousness of the observed harm" assumed as severe or death is the dimension with greater percentage, followed by "aggressive attitudes/behaviors" towards the patient and then the "infections".

**Conclusions:** To assure the patients' safety is a primordial aspect and should thus be worked daily in the professionals' clinical practice review, so preventing mistakes/incidents associated to health cares.

**Keywords:** Patient safety. Healthcare professionals. Errors/i.

#### SATISFACTION IN PALLIATIVE CARE PATIENTS

Carlos Albuquerque, João Duarte, Diana Albuquerque, Joana Castanheira, Cristiana Maravilha, Helena Henriques, Marisa Bessa

*Health School/Polytechnic Institute of Viseu, Portugal.*

*Contact details: lv.dianarosa@gmail.com*

**Introduction:** Evaluation of patient satisfaction has had a growing importance on health quality, planning, rationalization of process management and health resources. Furthermore, the scarcity of studies on palliative care and the increase in average life expectancy associated to the increase of patients with chronic conditions that need palliative care, add to the need of research in this area.

**Objective:** To analyze how sociodemographic variables, clinic variables and quality of sleep relate with patient satisfaction in palliative care.

**Methods:** A quantitative, transversal, descriptive and correlational study was made with 83 patients in need of palliative care participated, most of them admitted in Local Healthcare Units (37.7%), females (50.6%), with ages between 38 and 93 years ( $M = 70.95$ ;  $SD = 12.77$ ). A clinical sociodemographic sheet was created and used and instruments such as Edmonton Symptom Assessment System, EORTC In-Patient Satisfaction With Care Questionnaire e Oviedo Sleep Questionnaire were also used to measure the variables.

**Results:** Statistical significant effects of sociodemographic and clinical variables in the satisfaction of patients in palliative care were observed, namely: younger patients, living in urban areas, with higher income and that are admitted in Medium Duration and Rehabilitation Units present the highest satisfactions indexes. Regarding sleep quality, the patients with higher satisfaction referred less insomnia, hypersomnia and general sleep satisfaction and higher subjective sleep satisfaction.

**Conclusions:** The results seem to indicate that, to monitor the patient's satisfaction, it's invaluable to appreciate its variables. Further research and professional education about their influence on healthcare's quality is suggested.

**Keywords:** Patient. Satisfaction. Palliative care. Symptoms.

#### KNOWLEDGE OF PALLIATIVE CARE: VALIDATION OF A QUESTIONNAIRE

Madalena Cunha, Adriana Gomes, Ana Rita Teixeira, Elisabete Oliveira, Joana Sequeira, Joana Martins, Mónica Lemos

*Health School/Polytechnic Institute of Viseu, Portugal.*

*Contact details: madac@iol.pt*

**Introduction:** Reliable Instruments to measure the level of knowledge that support clinical practice in palliative care, are of great value today of the Portuguese public health. Thus, in order to contribute an instrument which enables mediate the diagnosis of training needs of health professionals, validated the questionnaire of knowledge about palliative care (QCCP) built by Cunha, M. 2014.

**Objectives:** To describe the process of validation of the questionnaire of knowledge about palliative care.

**Methods:** The QCCP was applied to 120 nurses. The knowledge assessment matrix was operationalized in the original version with 33 items/dichotomous response statements (true/false), whose total score, ranged between 0 and 33. Parsed internal consistency

through the Cronbach's alpha and disposed items with correlation value less than 0.2 in the QCCP got 15 items, tipped with a minimum value of 0 and a maximum of 3:0 pm that the bigger the score, the better the level of knowledge about palliative care.

**Results:** The QCCP demonstrated reasonable internal consistency ( $\alpha = 0.715$ ), with positive and significant correlation in the global note with and without the item included. The principal component factor analysis, followed by rotation varimax and graphic scree plots, extracted two factors explaining 31.93% of total variance. The composition of factors suggests the meanings: Fator1 ( $\alpha = 0.705$ ) Principles of palliative care; Fator2 ( $\alpha = 0.425$ ) work in palliative care.

**Conclusions:** The psychometric properties of the QCCP, certify its reasonable quality as a tool to be used in the assessment of knowledge of nurses on palliative care, revealing itself useful for the planning of formation directed to it.

**Keywords:** Knowledge. Palliative care. Validation.

### QUESTIONNAIRE VALIDATION OF KNOWLEDGE ABOUT GRIEF

Madalena Cunha, Adriana Gomes, Ana Rita Teixeira, Elisabete Oliveira, Joana Sequeira, Joana Martins, Mónica Lemos

*Health School/Polytechnic Institute of Viseu, Portugal.*

*Contact details: madac@iol.pt*

**Introduction:** The experience of grieving process cause intense suffering and therefore needs to be well managed by healthcare professionals with adequate knowledge holders. Knowledge assessment instruments are therefore of great value. It was intended to validate the Knowledge questionnaire about the mourning (QCL) built by Cunha, m. 2014 in order to mediate in future diagnosis of training needs of health professionals.

**Objectives:** To describe the psychometric characteristics of the QCL.

**Methods:** The QCL was applied to 120 nurses residing in Portugal. The knowledge assessment matrix was operationalized in the original version through 46 items/dichotomous response statements (true/false), whose total score, ranged between 0 and 46. Parsed internal consistency through the Cronbach's alpha and disposed items with correlation value less than 0.2, the QCL was with 23 items, tipped with a minimum value of 0 and a maximum of 23 that, the higher the score, the better the level of knowledge about the grief.

**Results:** The QCL demonstrated good internal consistency ( $\alpha = 0.799$ ), with positive and significant correlation in the global note with and without the item included. The principal component factor analysis, followed by rotation varimax and graphic scree plots, revealed three factors explaining 50.10% of total variance. The composition of factors suggests the meanings: Fator1 ( $\alpha = 0.860$ ) phases and Process of grief; Fator2 ( $\alpha = 0.573$ ) Characterization of grief; Fator3 ( $\alpha = 0.573$ ) Time and experience of death.

**Conclusions:** The psychometric properties of the QCL make sure its good quality as a tool to be used in the assessment of knowledge of Nurses about Mourn, stating their usefulness as training planning support to these professionals.

**Keywords:** Knowledge. Grief. Validation.

### NURSES' KNOWLEDGE ABOUT PALLIATIVE CARE

Madalena Cunha, João Duarte, Anabela Antunes, Adriana Gomes, Ana Rita Teixeira, Elisabete Oliveira, Joana Sequeira, Joana Martins, Mónica Lemos

*Health School/Polytechnic Institute of Viseu, Portugal.*

*Contact details: madac@iol.pt*

**Introduction:** Nowadays palliative care, while philosophy of care, has acquired more clinical, social and political relevance, not targeting the cure, but the uniqueness of promote care for

a dignified life/dead in terminal patient and an healthy experience of the mourning by those who lose loved ones. Thus, it proves to be of extreme importance to provide healthcare professionals of adequate knowledge in palliative care, since the evidence shows to exist significant lack of specific training in this area.

**Objectives:** Evaluate the level of nurses' knowledge about palliative care.

**Methods:** Descriptive-correlational and cross-sectional study, conducted in a sample of 238 participants (75.8% women and 24.2% men). Data collection was supported in Questionnaires of Knowledge about Palliative Care, from Cunha (2014).

**Results:** Most nurses showed good knowledge in palliative care (95.8%), scoring ranging between 3 to 14 with a mean of 11.73. Men expressed best knowledge in factor 1 "Principles in Palliative Care" (MW test = 997.5;  $p = 0.044$ ). The knowledge was also higher among those who live in urban areas (factor 1, MW test = 389.5;  $p = 0.044$ ), those you have less academic qualifications (KW test = 7.891;  $p = 0.019$ ) and those who work in continued care units (KW = 11.228;  $p = 0.024$ ).

**Conclusions:** The results show that a significant group of participants has knowledge about palliative care. But it also emerges the need to include in the nursing courses content about care in end-of-life and palliative situation, in order to provide nurses the best evidence to face the needs of people/families in palliative care.

**Keywords:** Knowledge. Palliative care. Nurses.

### SYMPOSIUM: VULNERABILITY TO STRESS: INVESTIGATE FOR CHANGE

Anabela Pereira, Rita Vicente, Universidade de Aveiro, anabelapereira@ua.pt; rhvicente@ua.pt

#### Incorporate Communications

### BURNOUT, COPING AND PROFESSIONAL QUALITY OF LIFE IN REHABILITATION

Lúcia Prata, Anabela Pereira

*University of Aveiro, Portugal.*

*Contact details: isabel.narciso@ua.pt*

**Introduction:** Burnout syndrome is characterized by feelings of emotional exhaustion, depersonalization and low personal accomplishment and work in the area of disability has been considered one of the contexts where professionals appear to be exposed to burnout.

**Objectives:** The aim of this study was to relate burnout, coping, professional quality of life and age in formalof caregivers of people with disabilities.

**Methods:** A sample of 94 workers from three institutions to support the disability center zone was collected. The instruments used were: Socio Demographic Questionnaire, the Maslach Burnout Inventory (MBI); Coping Questionnaire (Brief-Cope), Professional Quality of Life Scale (ProQOL5).

**Results:** The results showed that caregivers have a low level of burnout. The most frequently used coping strategies were: planning, active coping, acceptance and positive reinterpretation. Also show that caregivers often have compassion satisfaction and low levels of burnout and traumatic stress, demonstrating that perceive a reasonable professional life quality. The dimensions of burnout, have established a positive correlation with the dysfunctional coping focused on emotions and are establish a significantly and negative correlation with coping-oriented problem solving. The dimension of compassion satisfaction of professional quality of life, is negatively correlated with the size of the professional accomplishment of burnout. The emotional exhaustion shows a relation of negative type

with age. Demonstrated that adaptive coping strategies contribute to lower rates of burnout and a better professional quality of life. **Conclusions:** This study has identified a significant pattern of burnout that require attention in occupational health and safety policies. **Keywords:** Caregiver. Burnout. Coping. Quality of life.

### PSYCHOPHYSIOLOGY OF STRESS: A THEORETICAL APPROACH

Laura Martins<sup>a</sup>, Anabela Pereira<sup>b</sup>, Maria Brandão<sup>a</sup>, Luís Sancho<sup>a</sup>, Cristina Santos<sup>b</sup>, Rita Vicente<sup>b</sup>, Andreia Fonseca<sup>b</sup>

<sup>a</sup>School of Health of University of Aveiro (ESSUA);

<sup>b</sup>Education Department of University of Aveiro, Portugal.

Contact details: [laura.martins@ua.pt](mailto:laura.martins@ua.pt)

**Introduction:** The development of knowledge about human body is increasingly more complex and the stress can activate processes that impair the human organism. At university students are a population, more vulnerable due to change environment, family distance and the inherent difficulties of the beginning of its professional career. **Objectives:** Description of physiology triggered by stress and its effects on body through the “Stress Prevention Program in Higher Education”.

**State of the art:** Recent studies have evidenced a deeper investigation about stress. The biofeedback and the cortisol have complemented the classic studies performed about this subject. Thus, the psychological and physiological variables have emerging with direct relationship between stress and disease.

**New perspectives/guidelines:** The knowledge is part of new perspective in prevention of stress and the creation of programs for help control stress can favour the improvement of academic result. Theoretical and practical implications: In practical implications about this subject, is important to emphasize the methods that students use for to reduce the stress. Thus, the professionals like psychologists or nurses, develop interventions for to decrease the stress. The theoretical approach is essential for to understand the physiology of stress, but the interest of deepening of the studies is important for create effective strategies.

**Conclusions:** The analysis of physiological stress helps in understanding of its manifestations, promoting the student for your self-control. The universities should more concern about stress in academic life. The “Stress Prevention Program in Higher Education” is very important for help develop adaptive strategies to cope with stress. **Keywords:** Stress. Physiology. Higher education.

### ANXIETY, DEPRESSION AND STRESS IN CHRONIC PAIN PATIENTS

João Almeida<sup>a</sup>, Anabela Pereira<sup>a</sup>, Vanda Clemente<sup>b</sup>

<sup>a</sup>Universidade de Aveiro, Portugal; <sup>b</sup>Centro Hospitalar e Universitário de Coimbra, Portugal.

Contact details: [joaohalmeida@ua.pt](mailto:joaohalmeida@ua.pt)

**Introduction:** Pain is the most common physical condition symptom reported. Medicine has evolved in developing solutions for acute pain but not for chronic pain, with several physical, mental and even economical consequences for its patients, with 30% of adult population spending in average 4611 million euros per year. Therefore, prevention and treatment of chronic pain is one of today’s most important concerns. **Objectives:** To understand the extent to which the dimensions anxiety, depression, vulnerability to stress, intensity and pain-related disability, affects patients with chronic pain.

**Methods:** A sample of 53 patients who attended Chronic Pain Unit at Coimbra Hospital and University Centre, aged 25 to 86 years, was used, and applied the Hospital Anxiety and Depression Scale (HADS), Vulnerability to Stress Scale (23QVS), Pain Disability Index (PDI) and the Visual Analogue Scale (VAS).

**Results:** Results showed that 71.7% of patients suffer from anxiety disorders and 39.6% of mood disorders and when compared with the normal population, they present levels of anxiety and depression well above. Also, 77.4% of the sample is vulnerable to stress, with higher prevalence in less educated. The areas of sexual activity and occupation are the most affected and pain intensity is higher in women. The higher levels of anxiety, the higher depression and stress vulnerability. Relations between perfectionism and intolerance, frustration, rejection, deprivation of affection and other dimensions were also found.

**Conclusions:** It’s clear the relations between the different components here related to chronic pain. This way we aim a better understanding of chronic pain in order to contribute to enhance life quality and well-being, whether regarding assessment or long-term monitoring.

**Keywords:** Chronic pain. Anxiety. Depression. Stress.

### PERSONAL BIOFEEDBACK: E-HEALTH TECHNOLOGY PROMOTING SELF-WELLBEING

Anabela Pereira<sup>a</sup>, Luis Sancho<sup>b</sup>, Paulo Chaló<sup>c</sup>, Claudia Chaves<sup>c</sup>

<sup>a</sup>Department of Education, University of Aveiro; <sup>b</sup>Health School, University of Aveiro; <sup>c</sup>Department of Education, Portugal.

Contact details: [anabelapereira@ua.pt](mailto:anabelapereira@ua.pt)

**Introduction:** Increase in the prevalence of anxiety disturbances, with progressively higher personal and social consequences, has meant an increase in treatment costs. Many university students exhibit high levels of stress and anxiety, particularly in the first year. As mobile devices become increasingly common, applications for the health market have been developed. It appears relevant to conduct studies in Portugal that focus on the psycho-physiological aspect with risk groups, such as university students, both in prevention and therapeutic intervention, to try to reduce the consequences of the high levels of anxiety to promote quality of life and performance. **Objectives:** To develop a Biofeedback device application for smartphones which allows for user comfort and autonomy.

**Methods:** Necessary hardware and software of the mobile biofeedback application will be developed by the Electronic and Telematic Engineering Department, Aveiro University, responsible for the instruments (e.g. sensor choice, electronic integration, signal treatment) and computation. After appropriate training, participants will be instructed to undergo two weekly sessions for 8 weeks at StressLab, during working hours; in the case of mobile biofeedback, the equipment will be handed out with instructions to do five sessions per week for three weeks.

**Results:** In the prevention aspect, a significant rise in stress and anxiety levels is expected in the control group, with the maintenance of said levels in the experimental groups. Significant differences are expected in the post-intervention evaluation, with a more marked difference in the mobile biofeedback application. **Keywords:** Biofeedback. E-health. Stress. Anxiety.

### QUALITY OF LIFE, EMOTIONAL AND SEXUAL ISSUES IN BREAST AND GYNECOLOGIC CANCER

Anabela Pereira<sup>a</sup>, Sara Monteiro<sup>b</sup>, Filipa Aires<sup>c</sup>, Elizabeth Castelo-Branco<sup>d</sup>

<sup>a</sup>University of Aveiro; CIDTFF, University of Aveiro, Portugal;

<sup>b</sup>University of Aveiro; IBILI, University of Coimbra, Portugal;

<sup>c</sup>University of Aveiro, Portugal; <sup>d</sup>Portuguese Institute of Oncology of Coimbra, Portugal.

Contact details: [anabelapereira@ua.pt](mailto:anabelapereira@ua.pt)

**Introduction:** According to WHO-International Agency for Research on Cancer, gynecologic and breast cancers have shown in 2012 a world incidence rate of 71.7/100,000 women per year. As early diagnosis of breast and gynecological cancer has enormously contributed to the success of surgical and/or treatment in young

adult women, insights into cancer surveillance and containment of treatment side effects are becoming of greatest relevance.

**Objectives:** To analyze the association between quality of life, psychological adjustment and sexual function in a sample of women with breast and gynecologic cancer.

**Methods:** A total of 75 women with breast and gynecologic cancer completed questionnaires which assessed: quality of life (EORTC QLQ-C30; Aaronson et al., 1993); psychological adjustment (HADS; Zigmond & Snaith, 2003) and sexual function (FSFI; Rosen et al, 2000).

**Results:** We found that depression was negatively correlated with desire ( $r = -0.358$ ;  $p = 0.020$ ), arousal ( $r = -0.326$ ;  $p = 0.035$ ), satisfaction ( $r = -0.421$ ;  $p = 0.005$ ), and total score of FSFI ( $r = -0.370$ ;  $p = 0.016$ ). Regarding quality of life, we found that physical functioning was positively correlated with arousal ( $r = 0.340$ ;  $p = 0.027$ ), and satisfaction ( $r = 0.339$ ;  $p = 0.028$ ); and that financial difficulties were negatively correlated with arousal ( $r = -0.372$ ;  $p = 0.015$ ) and satisfaction ( $r = -0.305$ ;  $p = 0.049$ ).

**Conclusions:** The results enhance the need to consider the potential impact of quality of life and psychological adjustment on sexual issues when it comes to women with breast or gynecologic cancer.

**Keywords:** Gynecologic breast cancer psychosocial adjustment.

## SYMPOSIUM: HEALTH OF THE CHILD/ ADOLESCENT AND PERCEPTIONS OF FAMILY AND SCHOOL COMMUNITY ABOUT PROBLEMS OF CHILD AND YOUTH HEALTH

Patrícia Bica Carvalho Costa, USF, Terras de Azurara, ACES Dão Lafões, patriciabicacosta@gmail.com

### Incorporate Communications

#### PERCEPTION OF TEACHERS OF THE 1ST CYCLE REGARDING CHILD ABUSE

Sandra Cunha<sup>a</sup>, Isabel Bica<sup>b</sup>, João Duarte<sup>b</sup>

<sup>a</sup>CHCB, EPE; <sup>b</sup>ESSV, Portugal.

Contact details: sandralavacinhos@gmail.com

**Introduction:** Fundamental rights such as the physical and emotional health of children are today widely recognized by society. The articulation between the various sectors of society, in particular health and education, are imperative to reduce this scourge.

**Objectives:** To evaluate the perception of teachers regarding the mistreatment and examine how sociodemographic variables and training context influence this perception.

**Methods:** This is a quantitative, descriptive, correlational, explanatory and cross-sectional study with a non-probability convenience sample of 172 teachers, data collection is conducted through a questionnaire consisting by the sociodemographic and formative characterization and by two scales, constructed in this study, designed to assess the knowledge, and one third that aims to assess attitudes towards child abuse.

**Results:** It was found that only 34.3% of the teachers have training on child abuse in their background training and 16.3% in their continuous training, although 98% considers training in this area as important. Only 15.7% knows the "Guia de orientação para profissionais de educação na abordagem de situações de mau trato ou outras situações de perigo". Data show that 42.4% of the educators have an adequate perception against the mistreatment (42.4% have good knowledge of the risk factors, 38.4% of the indicators and 32.5% show good attitudes). Emerge as predictors of perception the professional experience ( $p = 0.045$ ), the importance attached to training ( $p = 0.002$ ) and the knowledge of the guide ( $p = 0.002$ ).

**Conclusions:** Considering our results it is suggest an increase on research and on the education of the teachers, by a multi-disciplinary team where the nurse is key element, aiming for giving empowerment in the area of child abuse.

**Keywords:** Child abuse. Perception. Teacher. Health education.

#### GOOD PRACTICE IN THE CARE OF THE UMBILICAL STUMP: A REVIEW STUDY

Sandra Luís<sup>a</sup>, Graça Aparício<sup>b</sup>, Catarina Casteleiro<sup>a</sup>

<sup>a</sup>Centro Hospitalar Cova da Beira, Portugal; <sup>b</sup>Escola Superior de Saúde de Viseu, Portugal.

Contact details: Sandra96@gmail.com

**Background:** The Care of the umbilical cord have been considered over the years and considerable changes key, much to the flavor of the times or experience of the caregiver were suffering.

**Objectives:** To identify recommendations based on scientific evidence and good practice in the care of promoting fall and preventing infection of the umbilical stump of newborns.

**Methods:** We conducted a systematic literature review of studies conducted in Portuguese, Spanish and English, published after the year 2000 in international databases such as Medline, Cochrane, SciELO, B-on, Lilacs, Uptodate, American Academy of Pediatrics, Proquest, World Health Organization, using, from PICOD question, various descriptors and Boolean operators and using two reviewers who assessed the methodological quality of studies.

**Results:** From 163 initial studies and after a critical review, 32 articles were excluded and 14 included, of which 11 of evidence A, 1- B and 2- D. The outcomes showed the technique dry care as the most appropriate in the care of the umbilical stump, particularly in developed countries where surveillance and health care access are all individuals (Level of evidence A). This technique also reduces the fall time of the umbilical stump, compared with the use of solutes. However, in regions where the rate of infection and neonatal mortality are high, the application of solutes, such as chlorhexidine, is considered the most suitable, even if they delay the time of umbilical cord stump (Level of Evidence A). **Conclusions:** Nurses should seek to guide their practice based on scientific evidence and having as support the study performed, it is recommended to dry care in care of the umbilical stump method, although this is not the method traditionally defined in all institutions.

**Keywords:** Care. Umbilical stump. Nursing practices.

#### PREVALENCE OF DENTAL CARIES IN PORTUGUESE ADOLESCENTS

Isabel Bica<sup>a</sup>, José Costa<sup>a</sup>, Javier Montero<sup>b</sup>, Patrícia Costa<sup>c</sup>, Renato Costa<sup>d</sup>, António Costa<sup>e</sup>

<sup>a</sup>Superior Health School, IPV-CI&DETS, Portugal; <sup>b</sup>Department of Dentistry, School of Medicine, University of Salamanca, España; <sup>c</sup>USF Terras de Azurara, ACES Dão Lafões, Portugal; <sup>d</sup>Consultório Medicina Dentária, Renato Costa; <sup>e</sup>Health Science Department, Portuguese Catholic University, Viseu, Portugal.

Contact details: isabelbica@gmail.com

**Introduction:** In recent decades, tooth decay has declined significantly, especially in Portuguese children and adolescents. Although these positive developments, tooth decay is more prevalent and still constitutes a public health problem.

**Objetives:** To assess the prevalence of dental caries in adolescents between 12 and 15 years of age living in the central region of Portugal.

**Methods:** Epidemiological study, a non-probability convenience sample in 252 adolescents aged 12 to 15 years, who attended the 7th, 8th and 9th grade public school of the 3rd cycle of basic education. The Significant Caries Index (SIC) and DMFT were used to measure the experience of dental caries following the WHO criteria.

**Results:** The present adolescents DMFT ranging between a minimum and a maximum of 0 and 17, with an average value of 2.23 ( $\pm 2.48$ ) and the index SiC 5.04 ( $\pm 2.45$ ). The Age, is associated positively with the DMFT, ie, when they grow older adolescents tend to worsen the Index of decayed, missing and filled ( $r = 0.175$ ;  $p = 0.000$ ). T value observed by the association is significant, ie, the age influence of variation of 3.1% of adolescents DMFT.

**Conclusions:** The age negatively influences the values of SiC and DMFT in adolescents. The SiC index is a reliable tool to identify groups of children and adolescents with high caries experience. The identification of these groups helps outline prevention strategies targeted to the most vulnerable groups, taking into account the prevalence of dental caries.

**Keywords:** Adolescents. Prevalence. DMFT. SiC.

## EVALUATED ANTHROPOMETRIC PROFILE AND SELF-PERCEPTION BY ADOLESCENTS

Isabel Bica<sup>a</sup>, Madalena Cunha<sup>a</sup>, José Costa<sup>a</sup>, Patrícia Costa<sup>b</sup>

<sup>a</sup>CI&DETS, Escola Superior de Saúde, Instituto Politécnico de Viseu, Portugal; <sup>b</sup>USF Terras de Azurara - ACES Dão Lafões, Portugal.

Contact details: isabelbica@gmail.com

**Introduction:** Anthropometric measurements have been indicated as the most suitable parameter for evaluating the nutritional status of the community.

**Objectives:** Compare the anthropometric profile assessed with its self-perception by adolescents.

**Methods:** Observational and cross-sectional study conducted on a random sample of 661 adolescents from the Dão Lafões region in central Portugal. Sample characterization and self-perception of the anthropometry profile was obtained through a self-administered questionnaire for adolescents and the evaluation of weight and height was achieved using an analog scale Seca<sup>®</sup> with stadiometer.

**Results:** Anthropometric data based on adolescent's self-perception - mean weight of 51.83 kilograms (kg) (SD = 10.562). The boys think they have more weight than girls ( $= 52.60$ ;  $= 51.81$ ), with no significant differences between sexes (U Mann-Whitney U = 25893.0;  $Z = -0.152$ ;  $p = 0.879$ ). The height is average 160 centimeters (cm) (SD = 8.967) based on adolescents self-perception. Boys evaluate themselves higher than girls ( $Vs = 161.30 = 159.32$ ), (U = 20295.0;  $Z = -2.990$ ;  $p = 0.003$ ). Average BMI of 20.23 (SD = 3.319), with no significant differences compared to sex (U = 20539.0;  $Z = -1.781$ ;  $p = 0.075$ ). Evaluated anthropometric data – the average weight of the adolescents was 53.32 kg (SD = 10.842), with no significant differences (U = 53613.5;  $Z = -0.058$ ;  $p = 0.954$ ). Average height of 158.11 cm (SD = 7.670). The boys are taller than girls ( $= 159.31$ ;  $= 156.55$ ), (F = 59.263;  $t = 3.740$ ;  $p = 0.000$ ). Average BMI of 21.23 (SD = 3.543). The girls had a higher BMI than boys ( $= 21.50$ ;  $= 20.88$ ), (U = 47615.5;  $Z = -2.521$ ;  $p = 0.012$ ).

**Conclusions:** The BMI is rated higher than its perception by adolescents. The results suggest that anthropometric data should always be rigorously evaluated.

**Keywords:** Adolescents. Anthropometric profile.

## PROFESSIONAL KNOWLEDGE OF THE EDUCATIONAL COMMUNITY ON DIABETES MELLITUS TYPE 1 IN CHILDREN

Bruno Bernardo<sup>a</sup>, Isabel Bica<sup>b</sup>, João Duarte<sup>b</sup>

<sup>a</sup>Centro Hospitalar Cova da Beira, Covilhã; Portugal;

<sup>b</sup>Superior Health School, IPV – CI&DETS; Portugal.

Contact details:bjvrb@hotmail.com

**Introduction:** The lack of capacity that exists in many school communities to deal with children with diabetes mellitus, while it is under its responsibility in the school environment, generates difficulties and insecurity. Valid instruments are needed to enable

information about the knowledge of educators about children with type 1 diabetes mellitus in school.

**Objectives:** Assess knowledge of the educational community about type 1 diabetes mellitus in children and validate Scale for assessing knowledge of the educational community on diabetes mellitus type 1.

**Methods:** Descriptive study in a cross-section, a convenience sample 382 individuals, with a mean age of 43.05 years ( $\pm 8.675$ ), belonging to an educational community of Schools Public from the central region of the Portugal. Scale of Knowledge about Diabetes Mellitus Type 1 of Child, was applied by Francisco et al (2007), which was further subjected to a psychometric study.

**Results:** Participants, mostly-teachers and operational technical; the majority (29.6%) had between 37 and 43 years; 82.3% of respondents lived in urban areas, where these, the majority were male (83.6%); 78.5% of participants had higher education. Overall, 39.5% had knowledge about diabetes, emphasizing the inferential analysis that female residents in urban areas, operating assistants had significantly better knowledge about diabetes. Knowledge Scale about Diabetes in Children. Having regard to the psychometric study of the scale, resulted values of Cronbach Alpha with very good consistency (0.984). Factors had alpha values considered appropriate: Factor 1- Diabetes (0.921); Factor 2- Treatment (0.865) and Factor 3- Complicacions (0.762).

**Conclusions:** The scale was considered as a reliable and valid tool to assess knowledge about diabetes in children.

**Keywords:** Type 1 diabetes mellitus. Children. School.

## THE IMPACT OF CHILDREN'S ORAL HEALTH ON THE QUALITY OF FAMILY'S LIFE

Ana Camilo<sup>a</sup>, Filipa Oliveira<sup>b</sup>, Marina Carol<sup>c</sup>, Tânia Rodrigues<sup>d</sup>, Ana Jesus<sup>e</sup>, Carla Soares<sup>e</sup>, Olinda Faria, Tânia Pereira, João Duarte<sup>f</sup>, Isabel Bica<sup>f</sup>

<sup>a</sup>Santa Casa da Misericórdia de Mortágua; <sup>b</sup>Hospital Santa Casa da Misericórdia de Castelo de Paiva; <sup>c</sup>Medapharma, Nova Saúde; <sup>d</sup>Centro Médico e de Enfermagem da Portela, Setúbal; <sup>e</sup>Staff Nurse na empresa Gloucestershire Royal Hospital, James Paget University Hospital; <sup>f</sup>Escola Superior de Saúde, Instituto Politécnico de Viseu, CI&DETS, Portugal.

Contact details: ana\_sofia\_mrt@hotmail.com

**Introduction:** The family has influence in defining behaviours of general and oral health and represents a key role in the development of the knowledge and children's habits. However, children are exposed to some problems of general or oral health that can create an impact in their own life and their family life.

**Objectives:** Analyse the impact of child's oral health on the quality of life of their family.

**Methods:** A descriptive-correlational and cross-sectional study conducted in a non-probabilistic sample of 412 parents of children (50.5% of boys and 49.5% of girls), aged between 3 and 6 years (M = 4.33 years old, SD = 0.934), who attended the kindergartens from the district of Viseu. The data collection was made by using a questionnaire based on sociodemographic characteristics of general and oral health. It was used the Early Childhood Oral Health Impact Scale (ECHOIS), Panhel, Rozier e Slade, (2007), translated and validated to the Portuguese population by Costa (2014), and is called by Questionário da Qualidade de Vida Relacionada com a Saúde Oral da Criança/Adolescente (Q2VRSOC/A).

**Results:** The child's oral problems and its impact on the family's quality life are influenced by children's age ( $p = 0.002$ ); their BMI ( $p = 0.001$ ); their preference of certain food ( $p = 0.033$ ); the general health status ( $p = 0.044$ ); the oral health status ( $p = 0.000$ ); the health and oral hygiene approach that is made by the nurses ( $p = 0.041$ ); the observation of child's mouth and teeth ( $p = 0.014$ ); the dentist appointment ( $p = 0.000$ ).

**Conclusions:** The impact of oral problems in children has a negative influence in the family's quality of life. The results suggest the need for health professionals to develop programs to promote oral and general health.

**Keywords:** Children. Quality of life. Oral health. Family.

## SYMPOSIUM: ASSESSING HEALTH LITERACY AND EMPOWERMENT IN DIABETES

**Coordinator:** Carminda Morais, Centro de Estudos e Investigação em Saúde da Universidade de Coimbra/Escola Superior de Saúde do Instituto Politécnico de Viana do Castelo, carmindamorais@ess.ipvc.pt

### Incorporate Communications

#### MEASUREMENT IN DIABETES

Pedro Lopes Ferreira<sup>a,b</sup>, Carminda Morais<sup>a,c</sup>, Rui Pimenta<sup>a,d</sup>

<sup>a</sup>Centro de Estudos e Investigação em Saúde da Universidade de Coimbra (CEISUC); <sup>b</sup>Faculdade de Economia da Universidade de Coimbra; <sup>c</sup>Escola Superior de Saúde do Instituto Politécnico de Viana do Castelo; <sup>d</sup>Escola de Superior de Tecnologias da Saúde do Instituto Politécnico do Porto, Portugal.

Contact details: pedrofil@fe.uc.pt

**Introduction:** The empowerment and knowledge of people with type 2 diabetes allow an effective partnership in the decision-making process of the therapeutic process and in self-management of the disease. Only with qualified and intentional involvement is possible to tackle this public health issue. The impact of diabetes, both in terms of quality of life of people and of their families, and in direct economic terms for patients and indirect for other citizens, evidence the need for a strategic and sustained action centered on citizens.

**Objectives:** The purpose of this study was to measure the empowerment, the knowledge and the quality of life of people with type 2 diabetes.

**Methods:** To measure the psychosocial self-efficacy of people with diabetes we used the Portuguese version of the short version of the Diabetes Empowerment Scale (DES-SF). Moreover, the Diabetes Knowledge Test (DKT) measuring the general knowledge of diabetes consists of 23 knowledge test items also developed by the Michigan Diabetes Research Training Center. At last, to measure the quality of life of diabetes patients we used the Portuguese version of the preference-based instrument EQ-5D. All Portuguese versions were previously validated by CEISUC.

**Results:** 260 patients answered to all three measurement instruments. In a 0-100 scale, the Diabetes Knowledge Test score showed a normal distribution with a mean of  $65.4 \pm 12.4$ . Similarly, the Diabetes Empowerment Scale showed a mean of  $66.7 \pm 14.0$ . On the other hand, patients treated with insulin showed slightly higher values. Finally, accordingly with previous results the self-perceived quality of life was in the middle part of the scale.

**Conclusions:** Empowerment, knowledge and quality of life of type 2 diabetic patient was successfully measured.

**Keywords:** Empowerment. Knowledge. Quality of life. Diabetes.

#### PEOPLE, FAMILY AND COMMUNITY INVOLVEMENT

Carminda Morais<sup>a,b</sup>, Rui Pimenta<sup>a,c</sup>, Pedro Lopes Ferreira<sup>a,d</sup>, José Manuel Boavida<sup>e</sup>

<sup>a</sup>Centro de Estudos e Investigação em Saúde da Universidade de Coimbra (CEISUC), Portugal; <sup>b</sup>Escola Superior de Saúde do Instituto Politécnico de Viana do Castelo, Portugal; <sup>c</sup>Escola Superior de Tecnologias da Saúde do Instituto Politécnico do Porto, Portugal; <sup>d</sup>Faculdade de Economia da Universidade de Coimbra, Portugal; <sup>e</sup>Direção-Geral da Saúde, Ministério da Saúde, Portugal.

Contact details: carmindamorais@ess.ipvc.pt

**Introduction:** In this paper we present the theoretical framework underlying the project "Literacy promotion and empowerment in people with type 2 diabetes", developed by CEISUC in partnership with the DGS's Coordination of the National Program for Diabetes; this study was implemented at ULS Alto Minho and was financed by Calouste Gulbenkian Foundation. We intend to build up a sustained intervention to foster the promotion of empowerment of people with diabetes, and their family and community, based on a prior assessment of knowledge, ability to monitor.

**State of the art:** We draw from the produced scientific evidence that stresses the qualified and intentional involvement of people themselves, their families and community, as being an essential condition to tackle this serious and silently evolving public health issue.

**New guidelines:** Patients' empowerment includes the promotion of their ability to re/construct their health projects in their daily lives, enhancing their autonomy through self-control over health, the ability to search for and use the information and to assume responsibilities, in line with the WHO's concept of health literacy. Theoretical/practical implications: Using a creative and innovative logic, a participatory and collaborative action is proposed, with (not for) the people and their families, built from the production of scientific knowledge on their perspectives, in articulation with the professionals'. Thus, we aim at creating value at various levels: personal and individual; social; use of health services; and communication between health professionals and patients/families.

**Conclusions:** The involvement of all participants in the health care process is the structuring condition of the intervention.

**Keywords:** Empowerment. Literacy. People, family and community.

#### THE ORGANIZATION AND MANAGEMENT OF DM AS A CHRONIC DISEASE

Filipe Leal<sup>a</sup>, Carminda Morais<sup>b,c</sup>, Rui Pimenta<sup>b,d</sup>, Pedro Lopes Ferreira<sup>b,e</sup>

<sup>a</sup>Unidade Local de Saúde do Alto Minho, EPE, Portugal; <sup>b</sup>Centro de Estudos e Investigação em Saúde da Universidade de Coimbra (CEISUC), Portugal; <sup>c</sup>Escola Superior de Saúde do Instituto Politécnico de Viana do Castelo, Portugal; <sup>d</sup>Escola Superior de Tecnologias da Saúde do Instituto Politécnico do Porto, Portugal; <sup>e</sup>Faculdade de Economia da Universidade de Coimbra, Portugal.

Contact details: lealfil@gmail.com

**Introduction:** During the last decade, many countries have been refocusing their health systems in order to progressively include the integrated management of chronic disease, where diabetes mellitus (DM) is also included. The management model of chronic disease (MGDC) has often been the theoretical framework used that supports the practice and the Assessment of Chronic Illness Care (ACIC) the instrument most commonly used in assessing the level

of achievement. This model analysis the articulations between the dimensions in the community and health system, promoting the empowerment of individuals and healthcare teams in order to better clinical results.

**Objectives:** To characterize the differences between units of personalized healthcare (UCSP) and family health units (USF) regarding the management of care for people with diabetes as a chronic disease.

**Methods:** A cross-sectional, descriptive-exploratory comparative. Envolves the USF and UCSP in the North ACES.

**Results:** There were no statistically significant differences between the mean scores achieved in the ACIC and the USF UCSP, ie, both types of units only guarantee basic support to people with DM.

**Conclusions:** In terms of management of chronic disease provided the person with diabetes and family, both types of units are located at the same level, prefiguring a long journey to make in this area.

**Keywords:** Management model of chronic disease. Diabetes. ACIC.

## GENDER, HEALTH LITERACY AND EMPOWERMENT

Rui Pimenta<sup>a,b</sup>, Carminda Morais<sup>a,c</sup>, Pedro Lopes Ferreira<sup>a,d</sup>, José Amorim<sup>c,e</sup>, José Manuel Boavida<sup>f</sup>

<sup>a</sup>*Centro de Estudos e Investigação em Saúde da Universidade de Coimbra (CEISUC), Portugal;* <sup>b</sup>*Escola de Superior de Tecnologias da Saúde do Instituto Politécnico do Porto, Portugal;* <sup>c</sup>*Escola Superior de Saúde do Instituto Politécnico de Viana do Castelo, Portugal;* <sup>d</sup>*Faculdade de Economia da Universidade de Coimbra, Portugal;* <sup>e</sup>*ULSAM, EPE;* <sup>f</sup>*Direção-Geral da Saúde, Ministério da Saúde, Portugal.*

Contact details: rep@estsp.ipp.pt

**Introduction:** When dealing with chronic illness like diabetes, especially in a scarcity of resources scenario, health literacy and empowerment become major questions. Better informed individuals have more control over chronic diseases and contribute more efficiently to the health care resources allocation.

**Objectives:** In order to design more specific strategies to improve literacy and empowerment, we analysed and compared literacy and perceived empowerment in men and women with diabetes.

**Methods:** This is a quantitative study with a representative sample of 260 individuals attending the outpatient diabetes clinic in the ULSAM-EPE. The evaluation protocol includes a sociodemographic questionnaire, the Diabetes Empowerment Scale- Short Form (DES-SF) and the Diabetes Knowledge Test (DKT). Once properly treated the database, data were analyzed using the SPSS. We conducted descriptive and inferential analyzes using the t test for independent samples.

**Results:** Participants were individuals attending the outpatient diabetes clinic (122 male, mean age  $\pm$  SD 59.83 $\pm$ 13.71 years; 137 female; mean age  $\pm$  SD 64.03  $\pm$  11.88 years). Our results show that men feel significantly more empowered to manage diabetes than women ( $p = 0.007$ ). Despite the differences in the perception of the ability to self-manage diabetes, regarding knowledge, no significant differences were found between men and women ( $p = 0.174$ ).

**Conclusions:** Our results show that although men have a better perception of their ability to control diabetes, they do not shown having a level of knowledge about the management of diabetes significantly increased. This reinforces the need to direct efforts of health education for both sexes demystifying preconceived ideas about the capabilities of self control.

**Keywords:** Empowerment. Health literacy. Gender.

## DETERMINANTS OF QUALITY OF LIFE IN PEOPLE WITH DIABETES

Rui Pimenta<sup>a,b</sup>, Carminda Morais<sup>a,c</sup>, Pedro Lopes Ferreira<sup>a,d</sup>, José Amorim<sup>c,e</sup>, José Manuel Boavida<sup>f</sup>

<sup>a</sup>*Centro de Estudos e Investigação em Saúde da Universidade de Coimbra (CEISUC), Portugal;* <sup>b</sup>*Escola de Superior de Tecnologias da Saúde do Instituto Politécnico do Porto, Portugal;* <sup>c</sup>*Escola Superior de Saúde do Instituto Politécnico de Viana do Castelo, Portugal;* <sup>d</sup>*Faculdade de Economia da Universidade de Coimbra, Portugal;* <sup>e</sup>*ULSAM, EPE;* <sup>f</sup>*Direção-Geral da Saúde, Ministério da Saúde, Portugal.*

Contact details: palharesamorim@gmail.com

**Introduction:** The prevalence of diabetes is increasing all over the world. The investigation regarding the quality of life (QL) of individuals with diabetes is therefore crucial.

**Objectives:** In order to design more specific strategies to improve QL of people with diabetes, we analyzed and compared quality of life in people with diabetes according to gender, educational level, age group and employment status.

**Methods:** This is a quantitative study with a representative sample of 260 individuals attending the outpatient diabetes clinic in the ULSAM-EPE. The evaluation protocol includes a socio-demographic questionnaire and the EQ-5D Health Questionnaire. Once properly treated the database, data were analyzed using the SPSS. We conducted descriptive and inferential analyzes using the t test for independent samples.

**Results:** Participants were individuals attending the outpatient diabetes clinic (122 male, mean age  $\pm$  SD 59.83  $\pm$  13.71 years; 137 female; mean age  $\pm$  SD 64.03  $\pm$  11.88 years) and their mean  $\pm$  SD EQ-5D ascend to 0.650.27. Our results show that men have a quality of life significantly higher than the women (mean EQ-5D men  $\pm$  SD 0.75  $\pm$  0.25; mean EQ-5D female  $\pm$  SD 0.57  $\pm$  0.26;  $p < 0.001$ ). Individuals who have a higher than primary school education have a significantly higher quality of life (mean EQ-5D  $\pm$  SD = 0.78  $\pm$  0.24 vs 0.63  $\pm$  0.27;  $p = 0.002$ ). The elderly and unemployed people show a significantly lower QL for patients remaining (mean EQ-5D  $\pm$  SD = 0.56  $\pm$  0.29 vs 0.73  $\pm$  0.23;  $p < 0.001$ ) and (mean EQ-5D  $\pm$  SD = 0.57  $\pm$  0.26 vs 0.79  $\pm$  0.22,  $p < 0.001$ ), respectively.

**Conclusions:** Our results show that men have a higher quality of life than women. The educational level and the fact that it is working are positive determinants with respect to the quality of health-related which decreases with age.

**Keywords:** Empowerment. EQ-5D. Quality of life. Diabetes.

## SYMPOSIUM: CONSENSUS AND CONTROVERSIES IN PREHOSPITAL CARE

Coordinator: António Madureira Dias, Superior Health School, Polytechnic Institute of Viseu, madureiradias@gmail.com

### Incorporate Communications

#### THE NONINVASIVE VENTILATION IN PRE-HOSPITAL: INFLUENCE ON THE RATE OF ENDOTRACHEAL INTUBATION

Mónica Alves<sup>a</sup>, Madalena Cunha<sup>a</sup>, Nuno Marques<sup>a</sup>, Eduardo Santos<sup>b</sup>

<sup>a</sup>*Health School/Polytechnic Institute of Viseu, Portugal;*

<sup>b</sup>*Fundação Aurélio Amaro Diniz, Portugal.*

Contact details: alves.mónica@sapo.pt

**Introduction:** The Noninvasive Ventilation (NIV) has been recommended as an adjunct therapy in relieving symptoms in patients with Acute Pulmonary Edema (APE).



**Objectives:** Determine the effectiveness of the application of NIV in victims with APE, in the pre-hospital (PH) context in what concerns the outcomes of the necessity for endotracheal intubation.

**Methods:** A systematic literature review, about the studies evaluating the effectiveness of NIV application in APE in the PH context, was carried out as well as a research in PubMed, EBSCO, Google Scholar and SciELO studies published between January 2007 and 31 December 2013. The studies found were then evaluated based on the inclusion criteria previously established. Two reviewers assessed the quality of studies applying a grid to include critical appraisal of a study describing a prospective, randomized, controlled clinical trial by Carneiro (2008). In the meta-analysis was used the Mantel-Haenszel method, by reference to the effect of random models.

**Results:** Two RCT's met the inclusion criteria, involving 329 participants, 167 of the NIV group and 162 of the control group. The studies analysis reveal that the application of NIV significantly reduces the necessity for endotracheal intubation comparatively to the institution of standard medical treatment (RR = 0.60; CI 95% = 0.39-0.93; p = 0.02).

**Conclusions:** The use of NIV in the treatment of patients with APE in PH compared to the exclusive application of standard medical treatment reduces the necessity for endotracheal intubation, results that claim to be the application of NIV an important therapeutic measure in terms of clinical intervention effectiveness.

**Keywords:** Noninvasive ventilation. Pre-hospital.

#### STUDENTS' COMPETENCE IN BASIC LIFE SUPPORT: COMPARATIVE STUDY BETWEEN 9TH AND 12TH GRADE

Clifton Gala<sup>a</sup>, Olivério Ribeiro<sup>b</sup>

<sup>a</sup>Regional Office Center, National Institute of Medical Emergency, Coimbra, Portugal; <sup>b</sup>Superior Health School, Polytechnic Institute of Viseu, Portugal.

Contact details: [clifton\\_enf@hotmail.com](mailto:clifton_enf@hotmail.com)

**Introduction:** The Basic Life Support (BLS) aims to recognize the situations of imminent danger to life, learn to ask for help and know how to immediately start maneuvers that contribute to the preservation of ventilation and circulation, in order to maintain the victim viable until an appropriate medical treatment can be established and eventually reestablish ventilation and circulation.

**Objectives:** To assess the level of students' knowledge in BLS; teach the theoretical and practical content for competence in BLS; determine the relationship of a accredited training program and the acquisition of competence to perform the BLS algorithm; identify factors that influence the acquisition of this competence: age, education, gender, area of studies and social context.

**Methods:** An analytical, descriptive-correlational, cross-sectional study, using a quantitative methodology to test the research questions by proposing to assess the level of knowledge of students in 9th and 12th grade and their skills to perform the maneuvers. To evaluate the students' competences, an evaluation grid (INEM instrument).

**Results:** School year (U = 5588.5; p = 0.026) and the fact that students had prior training in BLS (U = 409.5; p = 0.009) showed a significant relation to the acquisition of skills in BLS. All the other variables studied did not influence the acquisition of skills or knowledge.

**Conclusions:** Training in BLS should be implemented with 12th grade students. The final average rating was 17.49 (Dp = 1.278). In addition to being significant ages in terms of cognitive development, 94.4% expressed a need for training in BLS. A range of still "undifferentiated" students was obtained for the future, which are becoming increasingly participative in social responsibilities.

**Keywords:** Basic life support. Knowledge. Competences.

#### PREHOSPITAL THERAPEUTIC HYPOTHERMIA: INFLUENCE ON SURVIVAL TO HOSPITAL DISCHARGE

Nuno Marques<sup>a</sup>, Madalena Cunha<sup>a</sup>, Mónica Alves<sup>a</sup>, Eduardo Santos<sup>b</sup>

<sup>a</sup>Health School/Polytechnic Institute of Viseu, Portugal;

<sup>b</sup>Fundação Aurélio Amaro Diniz, Portugal.

Contact details: [nuno.enfermeiro@sapo.pt](mailto:nuno.enfermeiro@sapo.pt)

**Introduction:** Therapeutic hypothermia improves survival and neurological outcome after cardiac arrest occurred in prehospital, so that recently their use in victims with return of spontaneous circulation (ROSC) has been recommended.

**Objectives:** The aim of this study was to know the effect of prehospital therapeutic hypothermia (PHTH) on survival of victims who suffered cardiac arrest (CA) outside the hospital.

**Methods:** A Systematic Review of Literature (SRL) about studies that evaluated the effect of PHTH victims who had suffered CA was performed. After a research (in the PubMed, EBSCO and Google Scholar) for studies published between January 2007 and May 31, 2013, were found studies and subjected to analysis, taking into account the inclusion criteria previously established. Two reviewers evaluated the quality of the studies using the critical evaluation scale of a study describing a prospective, randomized, controlled clinical trial by Carneiro (2008). In the metha-analysis the Mantel-Haenszel Method was used, by appealing the random models effect.

**Results:** Five RCT's involving 759 participants were selected, 378 of the group of prehospital hypothermia and 381 of the control group. The studies reveal that there are not significant differences regarding to survival (RR = 0.97; CI 95% = 0.79-1.19; p = 0.76).

**Conclusions:** Despite the SRL show that PHTH has no influence on survival at discharge from hospital, the scientific evidence points to an improvement in survival at discharge from hospital when HT is used in hospital, so it suggests a prompt referral to the health units where HT is implemented in victims with ROSC in the prehospital.

**Keywords:** Therapeutic hypothermia. Cardiac arrest.

#### MEDICATION ERRORS IN THE PRE-HOSPITAL: NURSES' PERCEPTIONS

Ândrea Figueiredo<sup>a</sup>, António Madureira<sup>b</sup>

<sup>a</sup>Instituto Nacional de Emergência Médica; <sup>b</sup>Escola Superior de Saúde de Viseu, Portugal.

Contact details: [andreamgfigueiredo@gmail.com](mailto:andreamgfigueiredo@gmail.com)

**Introduction:** Half of the preventable adverse events is a consequence of medication errors (ME), causing more deaths annually than work accidents (OE, 2005). Touted as "gate keepers", nurses are in a privileged position to detect flaws in the system and guarantee the safety of the patients. However, studies undertaken in this area in Portugal don't have discussed the pre-hospital, where increasingly the nurse is present.

**Objectives:** To determine the nurses' knowledge about ME and identify nurses' perceptions of the occurrence frequency of the types and causes of ME in the pre-hospital.

**Methods:** Quantitative descriptive cross-sectorial study with a sample of 107 pre-hospital nurses (snowball method), 39.82% are male gender. Data obtained through an electronic survey composed by a sociodemographic questionnaire, a knowledge scale on ME and a scale of perceptions and experiences with ME (Maurer, 2010; Bohomol & Ramos, 2006).

**Results:** The survey shows that 30.8% of the people inquired have poor knowledge about ME. The identified types of ME occur with a high frequency for 94.4% of the enquired people and causes for the ME for 39.3% of them. The three higher ranked types and causes were, in order: erroneous administration technique (M = 2.87; Dp = 0.98), wrong time (M = 2.37; Dp = 0.90) and error in the

assessment of contraindications ( $M = 2.33$ ;  $Dp = 0.67$ ); interruptions ( $M = 2.83$ ;  $Dp = 0.96$ ), hostile work environment ( $M = 2.82$ ;  $Dp = 0.95$ ) and work more than 40 hours per week ( $M = 2.82$ ;  $Dp = 1.09$ ).

**Conclusions:** Despite some gaps in knowledge about the ME nurses identify the main types and causes of errors in the pre-hospital setting. The results suggest practical implications in the nurses' training, working conditions and pre-hospital policies, towards the reduction of the medication errors.

**Keywords:** Medication errors pre-hospital nurses' perception.

#### **AUTOMATIC EXTERNAL DEFIBRILLATION: COMPARATIVE STUDY BETWEEN EMERGENCY TECHNICIANS AND VOLUNTEERS IN PREHOSPITAL EMERGENCY MEDICINE**

António Dias<sup>a</sup>, Nuno Henrique<sup>b</sup>, Olivério Ribeiro<sup>a</sup>, Nuno Pinto<sup>b</sup>, Madalena Cunha<sup>a</sup>

<sup>a</sup>Superior Health School, Polytechnic Institute of Viseu, Portugal;

<sup>b</sup>Regional Office Center, National Institute of Medical Emergency, Coimbra, Portugal.

Contact details: [madureiradias@gmail.com](mailto:madureiradias@gmail.com)

**Background:** Pre-hospital emergency work has not only registered a significant increase in the quality and efficiency of the service but also in the speed that this service is carried out. A more qualified pre-hospital assistance by health technicians and professionals

where accidents occur have allowed to respond in a more efficient and way in cardiac arrest having. In the international experience, the usage of automatic external defibrillators (AED) by non health staff in a prehospital scenario, increases significantly the probability of the victim surviving.

**Objectives:** It is intended to identify the success rate of the use of AEDs in central Portugal and compare the performance of emergency medical technicians and volunteers in cardiac arrest scenarios.

**Material and methods:** This study is descriptive-correlational and cross-sectional. The sample of the study include 1595 people, all victims of cardiac arrest, in which an emergency means was conducted, between January and June 2013 in the geographic area of the Regional Office Center.

**Results:** The presence of INEM in places of occurrences, in situations of cardiac arrest increases approximately 3.6 times, the probability in verifying a situation of recuperation of spontaneous circulation, in comparison with other entities is  $OR = 3.69$ ; (IC 95% [2.14 a 6.36]). In univariate analysis, we found that witnessed PCR ( $\chi^2 = 7.816$ ;  $p = 0.005$ ), who witnessed the moment of collapse ( $\chi^2 = 3.851$ ;  $p = 0.05$ ) and a shock recommended ( $\chi^2 = 7.048$ ;  $p = 0.008$ ) and type of through fires ( $\chi^2 = 24.604$ ;  $p = 0.000$ ) significantly predicted return of spontaneous circulation.

**Conclusions:** The usage of trained personnel as it is the case of the INEM professionals is essential in assuring a quality emergency service.

**Keywords:** Cardiac arrest. Automatic external defibrillator. Cardio-pulmonary resuscitation.