2016-06-30

Projects at ACT

Project categories

Category	
A	Associations between oral and general health-related problems and diseases in older people
B	Treatment and care aspects on oral health in older people in a multi-disciplinary perspective
C	Associations between sensorimotor disturbances in the masticatory system, caused by the loss of teeth or dental reconstructions, and cognitive functions

Project

Principal Investigator	Title	No.
Helena Salminen, Charlotta Elleby	New ways of identifying individuals A1at risk for frailty and fragility fractures in dental surgery - Lic project	A 1
Helena Salminen, Charlotta Elleby	Predictive value of sparse trabeculation for greater risk of fractures in a longitudinal cohort with a total follow up of 45 years	A 1a
Helena Salminen, Charlotta Elleby	Predictive value of additional risk factors for increased fracture risk in a longitudinal cohort with a follow up of 45 years	A 1b

ACT
AKADEMISKT CENTRUM FÖR ÄLDRETANDVÅRD

Principal Investigator	Title	No.
Inger Wårdh	Ekoral - ett biokompatibelt hjälpmedel för förbättrad munhygien?	A 2
Inger Wårdh, Göran Friman	Medical screening in dental care - PhD project	A 3
Inger Wårdh, Göran Friman	Identifying patients in dental settings at risk of cardiovascular disease and diabetes	A 3a
Inger Wårdh, Göran Friman	Patient Experiences of Medical Screening Performed by the Dental Services: A Qualitative Study	A 3b
Inger Wårdh, Göran Friman	Medical screening in dental settings: a qualitative study of the views of authorities and organizations	A 3c
Inger Wårdh, Göran Friman	Longterm follow-up of opportunistic medical screening within dentistry – a descriptive study	A 3d
Anders Gustafsson	Correlation in concentration of GDF-15 in saliva and serum – a methodological study	A 4
Gunilla Sandborgh Englund	Health economic aspects of hyposalivation-induced oral complications	A 5
Gunilla Sandborgh Englund, Sara Garcia-Ptacek	Are there differences in care and mortality between patients with and without stroke and non-dementia stroke patients? A cohort study based o Svedem, the Swedish dementia register, and rikstroke	A 6
Gunilla Sandborgh Englund,	Dental care utilization in Swedish patients with different types of dementia: A linkage study	A 7

ACT
AKADEMISKT CENTRUM FÖR ÄLDRETANDVÅRD

Principal Investigator	Title	No.
Seyed-M Fereshtenajad	between Swedish Dementia Registry (SveDem) and Swedish Dental Health Register	
Gunilla Sandborgh Englund	The effect of polypharmacy on oral health in elderly people	A 8
Inger Wårdh, Per Östberg	Norms for the Repetitive Saliva Swallowing Test as a function of age, gender and saliva secretion as well as validity of dysphagia assessment	A 9
Pia Skott	Effect of muscle training with an oral screen (IQoro) in post-stroke rehabilitation	A 10
Pia Skott	Nutritional status and oral health in care dependent elderly. An evaluation of the ROAG instrument as a riskindicator of malnutrition	A 11
Inger Wårdh	Use of and attitudes to knowledge sources in medical decision making	A 12
Inger Wårdh	Domiciliary professional oral care for dependent elderly – access to improved oral and general health? A pilot study	B 1
Inger Wårdh	Domiciliary professional oral care for dependent elderly – access to improved oral and general health? A continuing project and extended application	B 2
Inger Wårdh, Eva Toth-Pal	Validering av en enkät för utveckling av patientbemötande och patientcentrerad vård - ”The Medical Interview Satisfaction Scale 21	B 3

ACT
AKADEMISKT CENTRUM FÖR ÄLDRETANDVÅRD

Principal Investigator	Title	No.
Gunilla Sandborgh Englund	A systematic map of systematic reviews in geriatric dentistry - what do we really know?	B 4
Inger Wårdh	To promote good oral health in dependent elderly in nursing homes. A model for nursing staff to handle daily oral care	B 5
Urban Ekman	The cognitive changes and neural correlate after rehabilitation of mastication in older people – an intervention study	C 1
Inger Wårdh, Per Stjernfeldt Elgestad	Objective and subjective masticatory ability in older individuals - PhD project	C 2
Inger Wårdh, Per Stjernfeldt Elgestad	Measurement properties of measures for chewing and/or mastication: Protocol for a systematic review	C 2a
Inger Wårdh, Per Stjernfeldt Elgestad	Older individuals' experiences of their masticatory ability	C 2b
Inger Wårdh, Per Stjernfeldt Elgestad	Objective and subjective masticatory ability correlated to other oral related factors in older individuals	C 2c
Inger Wårdh, Per Stjernfeldt Elgestad	Objective and subjective masticatory ability correlated to food texture and nutritional status	C 2d
Inger Wårdh, Angelica Lantto	Dental implants in the functionally impaired: experience from the patients' perspective	C 3a

ACT
AKADEMISKT CENTRUM FÖR ÄLDRETANDVÅRD

Principal Investigator	Title	No.
	- PhD project	
Inger Wårdh, Angelica Lantto	Tooth Loss and Prosthetic Treatment in Dependent and Functionally Impaired Individuals with Respect to Age and Gender	C 3b
Inger Wårdh, Angelica Lantto	Oral health, Tooth loss and Treatment needs in Dependent and Functionally Impaired Individuals with Respect to Age, Gender and Socio-economic factors	C 3c
Inger Wårdh, Angelica Lantto	Associations between Oral health, Tooth loss, Quality-of-life and General Health Factors in Dependent and Functionally Impaired Individuals	C 3d
Inger Wårdh, Weili Xu	Teeth connect to thought: the impact of tooth loss on cognitive aging and dementia	C 4

Project number:
A1

Principal Investigator:
Helena Salminen

Co-investigators:
Lic student
Charlotta Elleby

Supervisor
Pia Skott
Sven Nyrén
Holger Theobald

Title

New ways of identifying individuals at risk for frailty and fragility fractures in dental surgery

Project overview

Project start	2015	
Calculated end	2018	
Grants awarded	1.600.000 SEK	
Source	FTV Stockholms län AB	
Year	2015-2018	

Aim

The aim of this study is to find and compare methods to identify individuals at high risk of frailty and fragility fractures by assessing the trabecular bone structure in dental radiographs combined with other risk factors.

Project description

The purpose of the study is to investigate if risk for future fractures can be determined by using regular dental radiographs and if the identified individuals exhibit additional risk factors for developing hidden illness and frailty. The Rebus cohort gives possibilities to study the predictive value of risk factors associated to fragility fractures in a long follow up period.

ACT
AKADEMISKT CENTRUM FÖR ÄLDRETANDVÅRD

The clinical importance of a correct estimate of fracture risk comes from the effective treatments available to decrease the risk of future fragility fractures such as fall prevention, physical exercises and bone strengthening drugs. An early inset of preventive measures would save suffering for the patients and costs for the society. Dental radiographs are taken on an individual indication and regularly on a large part of the population and the dentists are familiar with analysing them. The use of the analysis of dental radiographs as a tool to determine the risk of future fractures would put additional value to the regular dental appointment. The proposed study will contribute to the body of knowledge of geriatric health and risk factors for frailty that can be determined early in life to enable effective preventive treatment.

Projektet June 2016

The Rebus longitudinal dataset and corresponding X-rays with a follow up period of 45 years has been organized

Flowchart

The research process	Date	Comments
Project plan	2016	PhD registration seminar 16th of Feb 2016
Grant application	FTV Stockholms län AB	Financial approvement during the first 4 years of 50% PhD-studies.
Project start	2016	
Data Collection	The Rebus dataset is longitunally collected during 45 years	X-rays and clinical parameters are safely stored at ACT
Data analysis	Analogue X-rays have to be scanned and digitalized before analysis can start	Scanning will be performed at the Oral radiology Department at Eastman institute, Stockholm
Final compilation		
Report writing/ publication		
Final report	Licentiate exam	Planned Ded 2019

ACT
AKADEMISKT CENTRUM FÖR ÄLDRETANDVÅRD

Project number:
A1a

Principal Investigator:
Helena Salminen

Co-investigators:
Lic student
Charlotta Elleby

Supervisor
Pia Skott
Sven Nyrén
Holger Theobald

Title

Predictive value of sparse trabeculation for greater risk of fractures in a longitudinal cohort with a total follow up of 45 years

Project overview

Project start	2016	
Calculated end	Dec 2018	
Grants awarded		
Source	FTV Stockholms län AB	
Year		

Aim

To investigate the trabecular pattern of the mandibular bone in dental radiographs, assessed with three different methods (Jaw-X, TBS iNsight and Visual index) in different age groups. Furthermore, to study the connection between sparse trabeculation and greater risk of fractures in a longitudinal cohort with a total follow up of 45 years.

Project description

Population:

Rebus cohort with a total of 32185 individuals of ages 18-65 years, starting 1969-70, with part of the cohort, 1300 individuals, examined with dental radiographs and surveys for risk

factors in 1970, the examinations were repeated for a part of the cohort in 1980 and/or 1990.

Methods:

Analysis of the predictive value of trabecular pattern in dental radiographs during follow up Date using the three different methods described below. Statistical analysis will be performed using Cox Regression Analysis.

Methods for assessing the trabeculation in the study:

A. TBS iNsight (TBS), from Medimaps®, is a new technique using the radiographs taken routinely at DXA examinations, and enable an indirect assessment of 3D-values of trabeculation, and consequently the strength of the bone [17-20].The analysis is performed on central DXA radiographs using a software that can be installed in the DXA apparatus [21]. The technique is today based on lumbar spine radiographs, but in this project we have the intention to develop the method for use on intraoral dental radiographs together with Medimaps®.

B. Jaw-X. This analysis is commercially available from Boneprox® for dental radiographs with the purpose to identify individuals at risk for osteoporosis. Published results for Jaw-X has shown that the software can correlate a numerical measurement to an enhanced risk for fractures [14] but further studies are required to predict fractures with the method.

C. Visual Assessment. The trabecular pattern of the mandible in a dental radiograph is assessed as dense, sparse, or mixed sparse and dense, with reference to calibrated standard radiographs of each trabecular pattern [22, 23]. In the proposed study the assessment of all radiographs will be performed by the same person. Each radiograph will be assessed at three different occasions to ensure the validity of the method.

Exclusion criteria: Lack of bone in the premolar region of the mandible (i.e. lack of teeth or bridgework in the region), interfering structures (i.e. apical lesions, periodontitis, pockets, foramen etc.) or unsatisfactory quality of the radiographs.

Projektet June 2016

The Rebus longitudinal dataset and corresponding X-rays with a follow up period of 45 years has been organised

Flowchart

The research process	Date	Comments
Project plan	2016	PhD registration seminar 16th of Feb 2016
Grant application	FTV Stockholms län AB	Financial approvement during the first 4 years of 50% PhD-studies.
Project start	2016	
Data Collection	The Rebus dataset is longitunally collected during 45 years	X-rays and clinical parameters are safely stored at ACT
Data analysis	Analogue X-rays have to be scanned and digitalized before analysis can start	Scanning will be performed at the Oral radiology Department at Eastman institute, Stockholm
Final compilation		
Report writing/ publication		
Final report	Licentiate exam	Planned Ded 2019

Project number:
A1b

Principal Investigator:
Helena Salminen

Co-investigators:
Lic student
Charlotta Elleby

Supervisor
Pia Skott
Sven Nyrén
Holger Theobald

Title

Predictive value of additional risk factors for increased fracture risk in a longitudinal cohort with a follow up of 45 years.

Project overview

Project start	2016	
Calculated end	Dec 2018	
Grants awarded		
Source	FTV Stockholms län AB	
Year		

Aim

To study the predictive value of additional risk factors for increased fracture risk in a longitudinal cohort with a follow up of 45 years.

Specific question:

How is the fracture predictive ability of dental radiographs associated with other known anamnestic risk factors for fractures that are present in the Rebus-cohort?

Project description

Population:

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AKADEMISKT CENTRUM FÖR ÄLDRETANDVÅRD

Rebus cohort with a total of 32,185 individuals of ages 18-65 years, starting 1969-70, with part of the cohort, 1300 individuals, examined with dental radiographs and surveys for risk factors in 1970, the examinations were repeated for a part of the cohort in 1980 and/or 1990.

Methods:

Analysis of the predictive ability of risk factors and dental radiographs during the follow up of 45 years will be performed using Cox Proportional Hazard Regression Analysis.

Examples of questions which indicate risk factors for fragility fractures from the Rebus cohort (32185 participants): “Do you feel exhausted?”, “Are you troubled by vertigo?”, “Do you have difficulties climbing stairs?”, “Do you have difficulties walking indoors?”, “Do you have a negative vision of the future?”, and questions about alcohol consumption.

In the Rebus cohort there are many questions around social circumstances, physical capability of different activities, balance and in the dental part of the cohort oral health status.

Data using the following ICD codes from The National Patient Register for fragility fractures will be used: S32.1-8, S52.5-6, S42.2-3, S72.0-4, S22.x, and S82.1

The 550 persons that were born 1930 or earlier are today over 85 years or deceased. As hip fractures nowadays occur at a mean age of 82, these are the persons that we will be most at interest to see the correlation between hip fractures, trabecular pattern of the mandibular bone and additional risk factors. Other fractures occur at a lower mean age. However, we have the intention to analyse the whole material to receive an understanding of how the trabecular pattern differs in different age groups and also the intra-individual changes of trabecular pattern during the follow-up period. The results will be adjusted for age with regard to age strata.

Projektet June 2016

Flowchart

The research process	Date	Comments
Project plan	2016	PhD registration seminar 16th of Feb 2016
Grant application	FTV Stockholms län AB	Financial approvement during the first 4 years of 50% PhD-studies.
Project start	2016	
Data Collection	The Rebus dataset is longitunally collected during 45 years	X-rays and clinical parameters are safely stored at ACT
Data analysis	Analogue X-rays have to be scanned and digitalized before analysis can start	Scanning will be performed at the Oral radiology Department at Eastman institute, Stockholm
Final compilation		
Report writing/ publication		
Final report	Licentiate exam	Planned Ded 2019

Project number:
A2

Principal Investigator:
Inger Wårdh

Co-investigators:
Arne Olsson
George Grabecz
Josef Georgis

Title

EKORAL - ett biokompatibelt hjälpmedel för förbättrad munhygien?

Project overview

Project start	09/2014	
Calculated end	12/2015	
Grants awarded	50.000 SEK + material	
Source	ExTheraAB	
Year	2014	

Aim

Undersöka om EKORAL leder till minskad eller förhindrad gingivit och/eller plackbildning.

Project description

En del människor har svårt att upprätthålla en god munhygien av olika orsaker. De behöver hjälp utöver den rengöring som de kan åstadkomma med tandborste och tandkräm. Det finns därför behov av stödprodukter som kan bidra till en minskad eller förhindrad bakterieansamling i munhålan. 80 personer, 20 – 60 år, med måttlig gingival inflammation (minst 50 %), rekryteras slumpvis till en försöks- och en kontrollgrupp med 40 deltagare i vardera gruppen. Inklusionskriterier är bl.a. minst 20 tänder och endast fasta tandersättningar. Studien är dubbelblind, randomiserad, placebokontrollerad med parallella behandlingsgrupper och konsekutiv rekrytering av patienter på en klinik. Inkluderade

patienter kommer randomiseras till en av de två behandlingsgrupperna för att få antingen EKORAL eller placebo. Innan studiestart tas ett baseline-status och därefter görs en professionell rengöring av tänderna. Utvärderingen kommer att fokusera primärt på gingivit och sekundärt plackbildning i munhålan. Under studietiden genomförs ordinarie munhygienrutiner med manuella hjälpmedel. Efter munhygienrutinen används lösningen i 3 veckor morgon och kväll med hjälp av munhåletork som svabbas runt i munnen under 30 sekunder. Efter 3 veckor görs en effektmätning med samma variabler som vid baseline. Randomiseringen genomförs så att de första 40 patienterna består av 20 på aktiv behandling och 20 på placebo. När resultaten av dessa 40 patienter är tillgängliga ska en blind utvärdering av resultaten göras för att säkerställa att en fortsättning med ytterligare 40 patienter är motiverad.

Status June 2016

Final report http://aldretandvard.se/wp-content/uploads/2016/05/22_Grabecz_Georgis.pdf

Project number:
A3

Principal Investigator:
Main supervisor
Inger Wårdh

Co-investigators
PhD student
Göran Friman

Supervisor
Margareta Hultin Co-PI
Gunnar Nilsson: Co-PI

Title

Medical screening in dental settings

Project overview

Project start	2008	
Calculated end	2016	
Grants awarded		
Source	Frident Handelsbolag	
Year	Half Date salary during the whole study period	

Aim

The overall purpose of this research project is to evaluate the application of medical screening in everyday dental settings, to achieve real world circumstances and find possible ways of implementing this procedure. It is already in practice in some dental settings but without knowledge ac-quired from research about the best way to perform it.

Project description

1.Friman G, Wårdh I, Nilsson G, Hultin M. Identifying patients in dental settings at risk of cardiovascular disease and diabetes. Cardiovascular Systems 2013 1: 5 (18 June 2013)

2. Friman G, Golestani G, Kalkali A, Wårdh I, Hultin M. Patient Experiences of Medical Screening Performed by the Dental Services: A Qualitative Study. Open Journal of

Stomatology, 2013, 3, OJST Published Online December 2013 (http://www.scirp.org/journal/ojst/)

3. Friman G, Hultin M, Nilsson GH, Wårdh I. Medical screening in dental settings: a qualitative study of the views of authorities and organizations. BMC Res Notes. 2015 Oct 19;8(1):580. doi: 10.1186/s13104-015-1543-8. PMID: 26478099 Free PMC Article

4. Longterm followup of opportunistic medical screening within dentistry – a descriptive study

Status June 2016

We now analyze what has happened with the study participants that performed medical screening in a private dental clinic 2004 and were followed up 2011. We look at the same variables that were measured at baseline: oral status BMI, medication, hyper tension, diabetes, snuff and smoking, mortality. We look for possible differences in the groups that were classed as risk patients and ill patients – according to the medical referral - compared with the healthy group. Do we catch some patients in an early stage of cardiovascular disease and diabetes and therefore make them able to change the disease processes, by medical screening in dental settings? Which patient groups should we focus on and how should the routines about the screening be described and implemented? This will be reported in the last manuscript of the thesis that is during preparation

Project number:
A3a

Principal Investigator:
Main supervisor
Inger Wårdh

Co-investigators
PhD student
Göran Friman

Supervisor
Margareta Hultin Co-PI
Gunnar Nilsson: Co-PI

Title

Identifying patients in dental settings at risk of cardiovascular disease and diabetes

Project overview

Project start	2008	
Calculated end	2016	
Grants awarded		
Source	Frident Handelsbolag	
Year	Half Date salary during the whole study period	

Aim

The purpose of our study was to identify patients in a dental setting at risk of already having or developing high blood pressure or high plasma glucose, investigate possible associations between these conditions and periodontal status and explore the correlation between screening results and follow up assessments concerning the need for medical treatment and/or lifestyle changes performed by medical staff.

Project description

Methods

A total of 170 dental patients were consecutively included at their regular yearly checkup visit. Data on age, weight, height, amount and use of tobacco and medication for cardiovascular disease and diabetes mellitus were collected, as well as data about systolic

and diastolic blood pressure, in addition to pulse and plasma glucose. Clinical and radiographic examinations revealed data about periodontal status by probing periodontal pockets and measuring marginal alveolar bone loss by means of x-rays. Patients who exceeded normal diastolic blood pressure and plasma glucose values were referred for diagnosis and care.

Results

Thirtynine patients exhibiting high values were provided referrals and 24 or 14.1% of the 170 participants required additional care. The correlation between oral and medical health care concerning blood pressure recorded was 64.5% ($p<0.001$), while the correlation was 40.0% ($p<0.001$) concerning plasma glucose. Among middle aged men and elderly subjects, the data revealed/showed a significant correlation between marginal alveolar bone loss and high systolic blood pressure ($p=0.001$).

Conclusions

The correlation between oral health care and medical health care registrations based on blood pressure and plasma glucose indicates that it may be appropriate for dental professionals to perform opportunistic medical screening and refer risk patients to the medical care system before complications occur. In order to identify medical risk patients in dental settings on the basis of high blood pressure, a suggestion may be to examine middleaged men and elderly patients of both sexes who exhibit radiographic markers for marginal alveolar bone loss.

Status June 2016

http://www.hoajonline.com/cardiovascsyst/2052-4358/1/5

Project number:
A3b

Principal Investigator:
Main supervisor
Inger Wårdh

Co-investigators
PhD student
Göran Friman

Margareta Hultin
Ghazaleh Golestani
Awara Kalkali

Title

Patient Experiences of Medical Screening Performed by the Dental Services: A Qualitative Study

Project overview

Project start	2008	
Calculated end	2016	
Grants awarded		
Source	Frident Handelsbolag	
Year	Half Date salary during the whole study period	

Aim

To explore how medical screening performed by the dental service was perceived from the patient's perspective.

Project description

Material and methods

Medical screening for high blood pressure and high plasma glucose was performed on 170 patients at a dental clinic in a small town in central Sweden. Seventeen individual interviews were conducted with a strategic sampling of these patients. The interviews were recorded

and transcribed. The transcriptions were coded and categorized in a manifest analysis, followed by a latent, interpretive analysis.

Results

The manifest analysis resulted in three categories: Positive attitude to screening and dental professionals which need to have specific knowledge of medical screening; Dental care which provides continuity but is not a neutral environment; and Feedback on the medical screening results and desired cooperation between dental and health care services. The latent analysis pointed out the importance of the patient's feeling that the procedure is carried out properly and safely, and requests for clear feedback concerning the results of the screening.

Conclusions

The interviewees experienced the dental care service as providing continuity. They would like to have regular medical screenings at their regular dental appointments to identify risks of cardiovascular diseases and diabetes. However, they expressed that it was important for the dental care staff to have the necessary medical knowledge. They also wanted good cooperation between the dental and health care services, with clear feedback to the patients about both positive and negative results and, when appropriate, referrals to the health care service.

Status June 2016

http://www.scirp.org/journal/PaperInformation.aspx?PaperID=41117

Project number:
A3c

Principal Investigator:
Main supervisor
Inger Wårdh

Co-investigators
PhD student
Göran Friman

Margareta Hultin
Ghazaleh Golestani
Awara Kalkali

Title

Medical screening in dental settings: a qualitative study of the views of authorities and organizations

Project overview

Project start	2008	
Calculated end	2016	
Grants awarded		
Source	Frident Handelsbolag	
Year	Half Date salary during the whole study period	

Aim

The practice of identifying individuals with undiagnosed diabetes mellitus type II or undiagnosed hypertension by medical screening in dental settings has been received positively by both patients and dentistry professionals. This identification has also shown to be costeffective by achieving savings and health benefits, but no inventory has been made of the attitudes of authorities and organizations. The aim of this study was to describe the views of authorities and organizations.

Project description

Thirteen authorities and organizations were interviewed of the sample of twenty requested. Seven approached authorities and organizations did not believe it was relevant to participate in the study.

The manifest analysis resulted in four categories: medical screening ought to be established in the society; dentistry must have relevant competence to perform medical screening; medical screening requires cooperation between dentistry and health care; and dentistry is not the only context where medical screening could be performed.

The latent analysis resulted in an emerging theme: positive to, but uncertain about, the concept of medical screening in dental settings.

The spokespersons for the approached authorities and organizations had a positive view of medical screening but the respondents experienced a lack of facts concerning the scientific communities' position, guidelines and procedures in the topic.

Conclusions and Implications

Approached authorities and organizations generally had a positive view of medical screening in dental settings but were uncertain about the concept. Further scientific knowledge and guidelines concerning the topic are needed before it can be commonly introduced and additional research on implementation strategies and longterm follow up of medical screening are needed.

Status June 2016

http://www.bmcresnotes.biomedcentral.com/articles/10.1186/s13104-015-1543-8

ACT
AKADEMISKT CENTRUM FÖR ÄLDRETANDVÅRD

Project number:
A3d

Principal Investigator:
Main supervisor
Inger Wårdh

Co-investigators
PhD student
Göran Friman

Margareta Hultin
Ghazaleh Golestani
Awara Kalkali

Title

Longterm follow up of opportunistic medical screening within dentistry – a descriptive study

Project overview

Project start	2008	
Calculated end	2016	
Grants awarded		
Source	Frident Handelsbolag	
Year	Half Date salary during the whole study period	

Aim

The purpose of this study was to do a follow up seven years after participating in medical screening in a dental setting.

Project description

Material and Methods

Seven years after conducted opportunistic medical screening of the 170 participants, they received the original questionnaire by post to update their health status. In those cases, where participants had died, permission was received from relatives to examine medication and possible cause of death.

Preliminary results

Of the original population, 152 dental patients, 89.4%, participated, dead, or alive with a mean age of 69 years. During these seven years 20 patients had passed away and there were 18 dropouts dead or alive.

The sampled data is not yet completely analyzed, but out of the 6 who were referred for passed diastolic threshold in 2004 but not received antihypertensive drugs in 2004 by the health care, medicated 2 in 2011; 2 of 6 (33.3%).

Of the 87 who had not passed diastolic threshold and not medicated antihypertensive drugs in 2004, medicated 8 in 2011; 8 of 87 (9.2%).

One of 4 (25%) with systolic blood pressure <140 in the screening 2004 had received new or changed medication for hypertension after seven years.

Eleven of 14 (78.6%) with systolic blood pressure >140 in the screening had received new or changed medication for hypertension after seven years.

Preliminary conclusion

Dentistry which carry out chairside opportunistic medical screening seems to be valuable for public health.

Status June 2016

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start		
Data Collection		
Data analysis		
Final compilation		
Report writing/ publication		
Final report		

Project number:
A4

Principal Investigator:
Anders Gustafsson

Co-investigators:
Ghazaleh Sadian,Golestani,
Inger Wårdh
Elisabeth Boström

Title

Correlation in concentration of GDF-15 in saliva and serum – a methodological study

Project overview

Project start	HT 2014	
Calculated end	VT 2016	
Grants awarded	150.000 SEK	
Source	SOF	
Year	2014	

Aim

Hur överensstämmer koncentrationerna av biomarkörerna MMP-8 och GDF-15 i serum med koncentrationerna i stimulerad och ostimulerad saliv?

Project description

The attitude towards medical screening in dentistry is positive and the majority of patients agree to participate and dentists are willing to incorporate screening into their clinics. However the majority of dentists prefers collection of saliva over blood and would like to gain more knowledge before conducting medical screening. This has prompted studies that address the use of saliva instead of blood for screening purposes and the progressing field of salivary diagnostics for systemic conditions. However, there are several methodological questions to be considered before saliva can be used routinely. One is the choice between stimulated or unstimulated saliva. Another unanswered question is the variation over Date.

A third question that remains to be answered is the influence of oral and systemic health on the composition of saliva.

Aim: The aim of this study was to explore if saliva can substitute blood for analysis of Growth differentiation factor (GDF) -15 and to investigate if oral health and Date of sampling influence salivary GDF-15.

Materials and methods: This study had two study groups. The main group consisted of healthy adults over 75 years (n=18) subjected to collection of blood, unstimulated and stimulated saliva, and a clinical dental examination. A subgroup of healthy adults (n=9) were recruited to assess diurnal and weekly salivary changes. GDF-15 levels were determined using ELISA and total protein content and salivary flow was registered.

Results: GDF-15 was increased in unstimulated compared to stimulated saliva in the main group and GDF-15 levels in unstimulated saliva correlated positively to serum GDF-15. We found no correlation between GDF-15 and any caries or periodontal clinical variable. Salivary flow and total protein increased at the end of the day and at the end of the week.

Conclusion: GDF-15 in unstimulated saliva reflects GDF-15 in serum. This along with our finding that salivary GDF-15 is unrelated to oral health variables suggests that salivary GDF-15 may rather reflect systemic health.

Status June 2016

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start		
Data Collection		
Data analysis		
Final compilation		
Report writing/ publication		
Final report		

Project number:
A5

Principal Investigator:
Gunilla Sandborgh Englund

Co-investigators
Scott Montgomery
Jan Adolfsson
Pär Karlsson
Anders Norlund
Aron Naimi-Akbar
Duangjai Lexomboon

Title

Health economic aspects of hyposalivation-induced oral complications

Project overview

Project start	2014	
Calculated end	2017	
Grants awarded	232 000 SEK	
Source	SOF	
Year	2015	

Aim

The aim of the project, from a health economical perspective, is to survey and analyze the total and incremental resource utilization in cancer patients with medically acquired hyposalivation, due to radiation therapy in the head and neck area and conditioning prior to hematopoetic stem cell transplantation.

Project description

Patients treated with radiation therapy due to cancer in the head and neck area (H&N) as well as patients treated by hematopoetic stem cell transplantation (HSCT) are known to experience severely impaired oral health due to hyposalivation . Yet little is known about the magnitude, the long term effects on oral health and the health economic aspects on dental care following these treatments.

The aim of this project is to survey and analyze the total and incremental resource utilization in patients with medically acquired hyposalivation due to their cancer treatments.

The H&N and HSCT cohorts are identified through regional and national registers. Patients diagnosed with thyroid cancer and bladder cancer will constitute control cohorts. In addition, a matched cohort from the general population will be constructed. Dental care consumption before and after diagnosis of cancer will be assessed by linkage to registers of dental care from the Stockholm County Council, from the Swedish Social Insurance Agency and from the Dental Health Registry. The cohorts will be compared regarding dental care consumption. The number of specific measures and costs will be divided in the subtypes of preventive, restorative and prosthetic dentistry, according to the dental insurance scheme.

It is well known that hyposalivation is an important risk factor for caries disease. The generated knowledge from this study will provide us with previously unknown information about dental care consumption and costs. This knowledge can be implemented into dental health care as an instrument to evaluate the efficacy of preventive regimes for hyposalivation induced treatment needs. Socioeconomic factors and subsidy changes affects the patient's pattern of dental care utilization. Knowledge of how medically acquired hyposalivation affects the individual patient's economic situation is limited, and the present study is of importance to increase this knowledge.

Status June 2016

Data analysis and compilation of paper

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start	2013	
Data Collection	2014	
Data analysis	2015	
Final compilation		
Report writing/ publication	2016	Ongoing
Final report		

Project number:
A6

Principal Investigator:
Gunilla Sandborgh Englund
Sara Garcia-Ptacek

Co-investigators:
Maria Eriksdotter
Gunilla Sandborgh Englund
Mia von Euler
Ingemar Kåreholt,
Kristina Johnell
Lena Kilander
Seyed-Mohammad Fereshtehnejad
Dorota Religa

Title

Are there differences in care and mortality between patients with and without stroke and non-dementia stroke patients? A cohort study based om Svedem, the Swedish dementia register, and rikstroke

Project overview

Project start	March 2015	
Calculated end	2017	
Grants awarded	-	
Source		
Year		

Aim

To describe the care received by persons with dementia who subsequently suffer from stroke in Sweden.

To detect interventions and treatments that benefit persons with dementia who suffer from stroke.

To examine whether sex differences exist in the treatment of persons with dementia and stroke, and whether sex influences the results of the management of stroke in persons with dementia.

To describe wider aspects of care, including dental health, that impact prognosis in patients with dementia with and without stroke, and stroke patients without dementia.

Project description

Stroke and dementia are two very frequent illnesses in the old, with considerable overlap. Indeed, stroke is the first cause of death among older women and the second most frequent cause of death in Sweden overall. A few studies have studied the safety of thrombolysis in dementia patients with stroke, but other interventions, such as hospitalization in acute stroke units and rapid initiation of cardiovascular risk factor treatment, have never been evaluated.

The impact of stroke on dementia outcome is also highly relevant to the field. The study of the influence of stroke on dementia prognosis and mortality will help determine treatment priorities in this group and improve patient care. Previous research on SveDemdata suggests that mortality varies greatly depending on dementia type, sex and cognition. Stroke is a frequent comorbidity of dementia. Cardiovascular risk factors can lead to both stroke and dementia, mainly vascular dementia (VaD), Alzheimer´s disease (AD), and mixed VaD and AD forms. Cognitive deterioration and post stroke dementia are frequent and difficult to diagnose.

Poor dental health leads to chronic inflammation and has been linked to cardiovascular disease and dementia. At the same Date, use of oral health resources is reduced with increasing age, and could be further reduced in patients with serious underlying illnesses. In these ill individuals, oral health takes a back seat to other more pressing concerns. However, a frequent complication of both dementia and stroke is aspiration pneumonia, caused by problems with swallowing. The risk for pneumonia is increased in patients with bad oral health, since the mouth contains more pathogens and even small amounts of saliva dripping down to the lungs can cause a serious infection.

We will determine whether patients with dementia and/or stroke lose contact with regular dental care, and how long it takes them to be directed to the special dental health care organized at the local level. Additionally, we will determine if aspects of dental care and treatment impact prognosis for dementia and stroke patients.

Research questions: Do dementia patients with stroke receive different care than non-dementia patients? Do patients with stroke and/or dementia lose contact with regular dental health care? Do aspects of dental health care impact prognosis in stroke or dementia?

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Materials and methods: SveDem from 2007 and onwards will be merged with Riksstroke. Socialstyrelsen (Registerservice) will perform the merge to insure anonymity. The resulting database will be merged with causes of death registry, the patient registry, prescription registry and dental health registries to obtain information on mortality, comorbidity and dental health care. Non-dementia stroke patients within Riksstroke will be matched with dementia patients The medication and patient registries will be used to obtain control variables, as will age and gender. Several models will be tested with different variables and methods, to determine which fits the data best.

Status June 2016

Data analys ongoing

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start		
Data Collection		
Data analysis	2016	Ongoing
Final compilation		
Report writing/ publication	2017	
Final report		

Project number:
A7

Principal Investigator:
Gunilla Sandborgh Englund

Seyed-Mohammad Fereshtenajad

Co-investigators:
Maria Eriksdotter
Dorota Religa
Sara Garcia-Ptacek
Jacob Holmer

Title

Dental care utilization in Swedish patients with different types of dementia: A linkage study between Swedish Dementia Registry (SveDem) and Swedish Dental Health Register

Project overview

Project start	Mars 2015	
Calculated end	2017	
Grants awarded	200.000 SEK	
Source	Alzheimerfonden	
Year	2016	

Aim

Describe the characteristics of dental care utilization including number of visits to dentistry, number of teeth, type of dental care and/or operation in Swedish dementia patients and compare it between different types of dementia

Explore the demographic and clinical factors that contribute to the differences in dental care utilization between Swedish dementia patients

Evaluate the changes in dental care utilization before and after dementia diagnosis

Investigate the effect of progression rate of cognitive decline on dental care utilization in Swedish patients with different types of dementia.

Project description

Population aging and longevity have leaded to a steady increase in the prevalence and consequently burden of dementia as the proportion of population over the age of 65 years

continues to increase in many developed and developing countries. There are nearly 150,000 individuals with dementia diagnosis in Sweden and two thirds of them have Alzheimer´s disease (AD). The main classical feature of dementia is characterized by declining cognitive functions such as memory, orientation, language and communication and judgment skills. The progressive nature of cognitive impairment that adds up with psychological and behavioural changes, motoric dysfunction and physical restrictions over Date encounters many elderly with dementia with shortcomings in different aspects of their healthcare and selfcare including oral hygiene and dental care.

Oral health and dental care are often neglected by both the patients and their caregivers since elderly with dementia usually have other higher prioritized problems. Moreover, caregivers are often confronted with affective disorders and care resistant behaviors resulting in difficulties in performing oral hygiene. It has been recently shown that people with dementia were less likely to visit a dentist regularly with a longer Date passed since their last visit compared to individuals with normal cognition. On the other hand, poor oral and dental health can itself adversely affects nutrition and speech, each of which could potentially worsen cognition and general health of dementia patients. Furthermore, there is a bulk of evidence showing that periodontitis or other inflammatory diseases in oral cavity are strongly linked to the incidence of systemic diseases, an increased risk of cardiac infarction and ischemic stroke. So far, there is dearth of information on the whole picture of dental care in Swedish dementia patients. Swedish data registers, specifically Swedish Dementia Registry (SveDem) and Swedish Dental Care Register provide the unique opportunity to comprehensively assess different aspects of dental care utilization in dementia patients in Sweden.

Linking databases from the Swedish Dementia Registry (SveDem) and the Swedish Dental Care Register, we aim to:

1) Describe the characteristics of dental care utilization including number of visits to dentistry, number of teeth, type of dental care and/or operation in Swedish dementia patients and compare it between different types of dementia

2) Explore the demographic and clinical factors that contribute to the differences in dental care utilization between Swedish dementia patients

3) Evaluate the changes in dental care utilization before and after dementia diagnosis

4) Investigate the effect of progression rate of cognitive decline on dental care utilization in Swedish patients with different types of dementia

Hypothesis/Questions:

The main study hypotheses/questions are:

1) What is the average number of visits to dentistry, number of teeth, type of dental care and/or operation in Swedish patients with different type of dementia?

2) Severity of cognitive impairment at baseline, dementia type, onset age and sex contribute to the changes in dental care utilization.

3) After dementia diagnosis, the number of dentistry visits and dental care utilization decrease, which is independent of increasing age and other demographic features

4) Dementia patients with more rapid cognitive decline (measured through follow up MMSE scores) have worse dental care profile.

Status June 2016

Data analysis ongoing

Flowchart

The research process	Date	Comments
Project plan	2015	
Grant application		
Project start	Oct. 2015	
Data Collection	2016	
Data analysis	2016	
Final compilation	2016	
Report writing/ publication	2016	
Final report	2017	

Project number:
A8

Principal Investigator:
Gunilla Sandborgh Englund

Co-investigators:
Pia Skott
Kristina Johnell
Åke Seiger
Duangjai Lexomboon
Edwin Tan
Cecilia Fridén
Max Herulf
Elisabeth Rydwik

Title

The effect of polypharmacy on oral health in elderly people

Project overview

Project start	2016	
Calculated end	2019	
Grants awarded	450 000 x 3 SEK	
Source	SOF	
Year	2016-2018	

Aim

To investigate whether drug treatment causes deteriorating oral health among elderly people, and to create a risk assessment tool for druginduced hyposalivation.

Project description

1. Develop a risk score for druginduced hyposalivation A systematic literature search will be performed with the aim of developing a risk score for druginduced hyposalivation. Databases: Medline, EM-BASE, CINAHL, PsycINFO, and Web of Science. Literature appraisal: The systematic review will be conducted according to the international PRISMA guidelines to ensure high quality and unbiased assessments. Predetermined criteria for inclusion and exclusion will be applied. Initially, abstracts and full text articles will be assessed independently for relevance and quality. The final assessment will subsequently

be agreed on by the reviewers. Methodological quality of the studies will be assessed by using the Newcastle Ottawa Scale. The risk score for drug induced hyposalivation will be derived from the odds ratios obtained by metaanalysis.

2. In order to elucidate the impact of drug induced hyposalivation on oral health, the relationship between longitudinal use of prescribed drugs and polypharmacy versus dental care consumption and tooth loss will be investigated. All individuals >65 years living in Sweden are included. The Swedish Prescribed Drug Register will be linked to the Dental Health Register. Socioeconomic data will be collected from Statistics Sweden. Longitudinal drug consumption and polypharmacy during 2012-2015 will be determined and classified according to the hyposalivation risk score

3. Apply and evaluate the risk score in a clinical setting in elderly dentate individuals.

The project will result in a validated risk score for drug induced hyposalivation. Implementation of the risk score will increase the awareness and knowledge. A deeper understanding in this area could add important arguments against polypharmacy in elderly people. Our goal is to influence medical staff to critically evaluate prescription drugs.

Status June 2016

Project start. Part 1 ongoing, part 2 initiated

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start		
Data Collection	2016	Part 1
Data analysis	2016	Part 1
Final compilation		
Report writing/ publication		
Final report	2016	Part 1

Project number:
A9

Principal Investigator:
Inger Wårdh,
Per Östberg

Co-investigators:
Master student
Emmelie Persson

Title

Norms for the Repetitive Saliva Swallowing Test as a function of age, gender and saliva secretion as well as validity of dysphagia assessment

Project overview

Project start	04/2016	
Calculated end	12/2017	
Grants awarded	Brommager. Master logoped	
Source		
Year		

Aim

Presentera ålders- och könsstratifierade normer och mått på effektstyrka för bakgrundsvariabler för vuxna deltagare på RSST. Studera ett eventuellt samband mellan salivsekretion och RSST-prestation. EsDatera den diagnostiska validiteten hos RSST vid bedsidebedömning av dysfagi genom jämförelse med SSA-S som oberoende kriterium.

Project description

Norms for the Repetitive Saliva Swallowing Test as a function of age, gender and saliva secretion as well as validity of dysphagia assessment

Swallowing difficulties, dysphagia, is common after stroke which can lead to aspirational pneumonia and an increased risk of morbidity. Screening tests can be performed to assess

whether patients with suspected dysphagia require further examination. The Repetitive Saliva Swallowing Test (RSST) is a screening test during which the patient is asked to swallow saliva as many Dates as possible for 30 seconds while deglutition is counted through palpations of the larynx. In a study by Oguchi et al. (2000) RSST was compared to Video Fluoroscopy (VFS) in terms of diagnostic validity and the results showed a high correlation between them in identifying aspiration. The cut off point was set at two swallows or less per 30 seconds. Sensitivity and specificity for aspiration was 0,98 and 0,66 respectively. This present study aims to establish normative values by looking at three age groups of non patients (total N=120). One patient group (N=40) is also being recruited from the Brommageriatrikens stroke ward to assess the RSST's diagnostic validity compared to the Standardized Swallowing Assessment – Svenska (SSA-S), which is considered as the gold standard of clinical screening assessment. Since the RSST involves the swallowing of saliva, this study shall also measure the participants' saliva secretion in order to eliminate its effect on the diagnostic validity. Saliva secretion is measured subjectively by selfassessment of xerostomia and objectively by measuring saliva secretion using standardised dental cotton wool rolls which are weighed pre and post absorption of saliva from the mouth. Collection of data is ongoing during spring 2016 with the purpose of establishing the clinical use of RSST.

Status June 2016

Data collection

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start	2015	
Data Collection	June 2016	
Data analysis	Autum 2016	
Final compilation	Autum 2016	
Report writing/ publication	Autum 2016	
Final report	Jan 2017	Planned 2017

Project number:
A10

Principal Investigator:
Pia Skott

Co-investigators:
Åsa Karlsson
Anita McAllister
Jenna Pekmic
Elisabeth Åkesson
Gunilla Sandborgh Englund
Åke Seiger

Title

Effect of muscle training with an oral screen (IQoro) in post-stroke rehabilitation.

Project overview

Project start	2015	
Calculated end	2017	
Grants awarded	25 000 SEK 80 000 SEk	
Source	ACT FTV Stockholm AB	
Year	2015	

Aim

To examine if muscle training with an oral screen can improve facial motoric function and dysphagia after stroke and whether the training effect persist at a late follow up.
Furthermore to investigate the incidence of orofacial dysfunction 6 months after first ever stroke.

Project description

This study will consecutively include patients who have shown incomplete response after rehabilitation at the Neurological rehabilitation at Stockhoms Sjukhem Foundation or patients who did not attend neurological rehabilitation 8-12 months after first ever stroke. This Date period was selected to ensure the full effect of the natural process of rehabilitation. The inclusion criteria will be sustained subjective and objective dysphagia, impaired masticatory- and oral motoric function. The speech therapist will screen the cognitive functions using MoCa (Montreal Cognitive Assessment tool) using a cut off at 22 points for impaired cognitive function.

Dental examination will register masticatory function using Eichners index to include patients in category A.

The present study aim to investigate their lip strength ability, masticatory function, bite force and the swallowing capacity at baseline, end of training and at a late follow up. Intervention with IQoro is managed from the dental clinic at Folktandvården Stockholms län AB and will consist of three months training period at home. The design of the training program is three Dates a day for 30 sec before meal. Verbal, practical and written instructions about the training will be given to the patients, the relatives or the care assistants. Each training session will be recorded by the patient, a family member or a care assistant. The results of the intervention with IQo-ro will be registred at a one month and a three month control session. The results of the intervention will be evaluated by the speech therapist team at the rehabilitation department at Stockholms sjukhem Foundation.

Status March 2016

Project start

Flowchart

The research process	**Date**	**Comments**
Project plan		
Grant application		
Project start		
Data Collection		
Data analysis		
Final compilation		
Report writing/ publication		
Final report		

Project number:
A11

Principal Investigator:
Pia Skott

Co-investigators:
Elisabeth Morén Gerd Faxén Irving
Nina Dahmberg

Title

Nutritional status and oral health in care dependent elderly. An evaluation of the ROAG instrument as a riskindicator of malnutrition.

Project overview

Project start	**June 2016**	
Calculated end	June 2017	
Grants awarded	90 000 SEK	
Source	FTV intern FoU	
Year	2015-2016	

Aim

Can the Revised Oral Assessment Guide (ROAG) be a useful tool to observe risk of malnutrition?

Can improved oral health be associated to increased appetite and nutritional status?

Project description

100 individuals living in nursing homes in Stockholms sjukhem foundation (SSH-cohort) will be included in this study.

Four nurses employed at Stockholms sjukhem foundation will receive education to use the ROAG instrument.

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The oral health status of the SSH-cohort will be registrated by the specially trained nurses using the ROAG instrument.

Using the MNA-questionnaire cohort will be divided into three groups, healthy, at risk for malnutrition and malnutrition. The scores from the ROAG assessment will be compared to the periodontal disease index and results in the MNA-questionnaire to investigate if we can correlate malnutrition to poor oral health. Age and gender are included in the study protocol to control for them being possible confounders.

Status June 2016

Form for ethical approval is ready to be submitted including research program. Formation of research group is fulfilled including both dental personell and nurses from SSH.

Educational program for ROAG has been completed.

Flowchart

The research process	Date	Comments
Project plan	May 2016	EPN submitted
Grant application	Aug 2016	Pre-financed Jan 2016 from FTV FoU
Project start	June 2016	
Data Collection	June 2016	
Data analysis	Oct 2016, May 2017	
Final compilation		
Report writing/ publication	Sept 2017	
Final report	Dec 2017	

Project number:
A12

Principal Investigator:

Christian Gerdesköld

Co-investigators:
Gunnar Nilsson,
Anna Nager,
Inger Wårdh

Title

Use of and attitudes to knowledge sources in medical decision making

Project overview

Project start	2006	
Calculated end	2018	
Grants awarded	Klicka här för att ange text.	
Source	The PhD student´s employer	
Year	Continuing during the PhD-studies	

Aim

The purpose of this research is to clarify the possibilities and use of medical knowledge sources in the health care setting. The primary research questions are: What factors that influence physician's use of medical knowledge sources & why would physicians adopt new ways of obtaining medical knowledge?

Project description

The research project ***Use of and attitudes to knowledge sources in medical decision making*** is a planned doctoral thesis focusing on medical informatics, medical teaching and clinical decision making. Work on the dissertation will in part be implemented as a collaboration between Center for Family and Community Medicine/Stockholm County

Council/Karolinska Institutet and Center for Clinical Research at the Central Hospital Västerås/Uppsala University.

Status June 2016

Half time presentation is planned to September 2016. One paper is published and one paper is submitted and under revision

Flowchart

The research process	Date	Comments
Project plan	**2006**	**Revised 2006**
Grant application	Klicka här för att ange text.	Klicka här för att ange text.
Project start	**2006**	Klicka här för att ange text.
Data Collection	**2006-2009**	Klicka här för att ange text.
Data analysis	**2006-2015**	Klicka här för att ange text.
Final compilation	**2015**	Klicka här för att ange text.
Report writing/ publication	2006-2017	Klicka här för att ange text.
Final report	**2018**	**Dissertation planned**

Project number:
B1

Principal Investigator:
Inger Wårdh

Co-investigators:
Pia Skott
Petteri Sjögren
Renata Nova
Caroline Croonquist Girestam

Title

Domiciliary professional oral care for dependent elderly
– access to improved oral and general health? A pilot study

Project overview

Project start	09/2014	
Calculated end	12/2015	
Grants awarded	150.000 SEK	
Source	SOF	
Year	2015	

Aim

As a part of a project to establish relevant recommendations for domiciliary oral care, the aim of this randomized controlled, single blind, pilot trial with three parallel arms, over three months, was to study the effect of domiciliary oral care on gingival bleeding on probing, dental plaque and oral mucosa. The participants were given either: monthly professional domiciliary oral care (A), monthly individual oral care instructions (B), or oral care as usual (C).

Project description

Domiciliary dental care makes regular dental visits possible for people with different functional limitations, that otherwise would not be able to access a dental clinic. It also

facilitates cooperation with nursing staff regarding oral care. To our knowledge, the effect of domiciliary oral care on oral health among elderly people in nursing homes has not been studied.

As a part of a project to establish recommendations for domiciliary oral care, the aim of this randomized controlled, single blind, pilot trial with three parallel arms, was to study the effect of domiciliary oral care on gingival bleeding on probing, dental plaque and oral mucosa. For three months the participants were given either: monthly professional domiciliary oral care (A), monthly individual oral care instructions (B), or oral care as usual (C).

A total of 102 (n=107) individuals completed the study. At three months gingival bleeding on probing was significantly improved among more participants in groups A and B compared with group C ($p<0.0004$). Dental plaque scores changed significantly over three months in favour for group B compared with group C ($p<0.04$). Mucosal plaque scores were significantly reduced in group A compared with both group B and C ($p<0.0001$). All other intergroup differences were non significant.

Professional domiciliary oral care has most favourable effect on gingival bleeding, whereas individual oral care instructions have most favourable effect regarding reduction of dental plaque, as compared with care as usual. Both professional oral care and individual oral care instructions should be included in a domiciliary oral care programme.

Status June 2016

Report writing/publication

Flowchart

The research process	Date	Comments
Project plan	2013	
Grant application		
Project start	2013	
Data Collection	2014-2015	
Data analysis	Oct 2015	
Final compilation	Jan 2016	
Report writing/ publication	June 2016	
Final report		

Project number:
B2

Principal Investigator:
Inger Wårdh

Co-investigators:
Pia Skott
Petteri Sjögren
Renata Nova
Caroline Croonquist Girestam

Title

Domiciliary professional oral care for dependent elderly

– access to improved oral and general health? A continuing project and extended application.

Project overview

Project start	2015	
Calculated end	2017	
Grants awarded	425.000 SEK	
Source	SOF	
Year	2016	

Aim

The aim with this project is to develop domiciliary professional oral care. We will compare the effect of different regimens for domiciliary profhylactic professional oral care both according to content and frequency. The overall aim is to establish relevant recommendations for domiciliary profhylactic professional oral care.

Project description

The study is performed among residents in nursing homes in Stockholm county, 75 years old or more and eligible for a free oral health assessment at home and necessary dental

care for general health care cost. The participants will be offered an oral assessment in their daily living with registration of number of teeth, presence of caries and periodontal disease, dental and mucosal plaque, gingival bleeding, oral dryness and oral micro flora. The oral health related quality of life among the participants will be measured through a questionnaire. Data of the participant's general health status, including presence of pneumonia and respiratory tract infections and use of drugs, including antibiotics, will be registered by the registered nurses. By a questionnaire the knowledge and opinion about oral health care in the nursing staff also will be registered.

Participants

The main study is planned to include 366 (2 x150 + 18 % compensation for estimated drop outs) dependent elderly individual in nursing homes. Inclusion criteria: at least 10 natural or fixed teeth inclusively osseointegrated implants, non smokers, ability to cooperate for oral assessment in 5-10 minutes and able to answer the Oral health related quality of life formula. Exclusion criteria: edentulousness and full dentures, cognitive limitations that is an obstacle for cooperation, malignancies and/or immunosuppressive diseases, coagulation defects. Anticoagulants will be registered but not as an exclusion criteria. The participants are consecutively recruited and sorted into the ward research group after informed consent – eventually with help of an advocate, (the ward research group is decided by chance when the first participant in the ward is recruited). A control group without any professional oral care during 6 months, will not be included in the main study, as it is not seen as good ethics to collect data without offer any oral care. Besides this, "ordinary care", either from the elderly themselves or nursing staff, vary. This is a confounding factor in the project that as far as possible is controlled by giving the same recommendations about routines for daily oral care to all included wards and participants. In accordance with ethical rules, the participants can interrupt their participation without explanation and negative consequences.

Clinical registrations due to study protocol (see below: effect variables), are performed by calibrated dental staff (dentists or dental hygienists) at baseline, after three months and after six months in all three study groups.

The dental staff will also have to get an opinion about the compliance of recommended routines and products with the help of questions to both the participants and the nursing

staff. The exact construction of these questions will be made during the project period, as no validated formulas are available.

A coordinator will be required to monitor the including researchers concerning their commitment to the study protocol and to handle unforeseeable events, like patient safety, complaints, complications. Any treatment complications that are suspected or reported, will be registered and the project leader act upon a relevant way. If any participant is in need of dental care besides what the project activities can supply, this will also be reported to and handled by the project leader.

Design

The project is designed as a randomised, single blind, clinical study with two parallel study arms. Randomisation is performed at group level (ward unit), blind for the researchers and participants (allocation concealment). Data analysis will be made on individual level but presented at group level. Appliance for Ethical permission has been made and approved for the study.

Status June 2016

Data collection

Flowchart

The research process	Date	Comments
Project plan	2015	
Grant application		
Project start	2015	
Data Collection	2016-2017	On going
Data analysis	Autum 2017	Planned
Final compilation		
Report writing/ publication	Nov 2017	Planned
Final report		

Project number:
B3

Principal Investigator:
Eva Toth-Pal

Co-investigators:
Doan Risberg
Jessica Carlsson
Inger Wårdh

Title

Validation of a questionnaire for development of patient interview consultation ”The Medical Interview Satisfaction Scale 21”

Project overview

Project start	2014	
Calculated end	2017	
Grants awarded		
Source	PPG, SLL	Project 20130590
Year	2014	

Aim

The overall aim with the study is to evaluate validity, reliability and usefulness of the Swedish version of the patient questionnaire MISS-21 in a primary health care population and according to the results construct an instrument for a Swedish context to measure patient experiences of their doctor consultation meetings.

Project description

”The Medical Interview Satisfaction Scale 21” (MISS-21) is a validated questionnaire with 21 items that is used in Great Britain to study patient experiences of their doctor consultations. MISS- 21 will be used to evaluate patient consultations and help doctors to develop their

consultation strategies. It could also be used in different levels of education and in other health contexts, such as dentistry.

Aim: 1. Is MISS-21 useful in the Swedish primary health context?

Aim 2. Is it possible to reduce the number of items with preserved trustworthiness?

We test 400 MISS-21 at two primary health clinics in Stockholm. They are chosen due to different sociocultural and organizational structures to secure a broad study population. From this material we evaluate the validity and reliability and then evaluate the usefulness in semi structured interviews with 20 patients and 20 doctors. From this results we will further develop the questionnaire to a more friendly use version. The project is approved by the local Ethic Board.

Status June 2016

In a pilot study 2011-2012 the validated questionnaire MISS-21 was translated to Swedish and was tested at a primary health clinic in Stockholm. The result from 135 questionnaires indicated that MISS 21 would be useful even in the Swedish context. Further should the questionnaire be shortened with less answer alternatives to make it more user friendly.The present project started 2014. A new translation to Swedish has been professionally performed. Focus groups interviews with specialists in general medicine, experts at consultation and patients has been made to evaluate the questionnaire. Data collection at two primary health clinics are ongoing.

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start		
Data Collection		
Data analysis	Oct. 2105	
Final compilation	June 2016	
Report writing/ publication		
Final report		

Project number:
B4

Principal Investigator:
Gunilla Sandborgh Englund

Co-investigators:
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Sofia Tranæus
Pia Gabre
Lars Gahnberg
Pia Skott
Katri Stålnacke
Inger Wårdh
Álfheiður Ástvaldsdóttir
Ann-Marie Boström
Pernilla Östberg
Thomas Davidsson
Hanna Wilhelmsson

Title

A systematic map of systematic reviews in geriatric dentistry - what do we really know?

Project overview

Project start	2016-01-28	
Calculated end	2016-11-30	
Grants awarded		
Source	Health Technology Assessment - Odontology (HTA-O), Faculty of Odontology, Malmö University	Sponsorship
Year	2016	

Aim

To identify, appraise and summarize existing knowledge and knowledge gaps in practice relevant questions in geriatric dentistry

Project description

A systematic mapping of systematic reviews will be undertaken for domain considered important in daily clinical practice. The literature search will cover questions in the following domains: Oral health condition conserning elderly fragile: Caries, Periodontal disease including implantrelated disease, Orofacial pain and Clinical oral physiology, Oral mucosal

lesions, Oral motor function, function of speech, mastication, swallowing, lip and para function, Xerostomia, Halitosis, The interaction between oral and general health,

Cooperation and communication difficulties, Quality of life, Ethics, Health economy,Organisation. Abstracts and full text reviews are assessed independently by two reviewers and any differences are solved by consensus. AMSTAR is used to assess the risk of bias of each

included systematic review. Reviews judged as having a low or moderate risk of bias are

used to formulate existing knowledge and knowledge gaps.

Status June 2016

Literature search, screening, fullltext articles assessed for eligibility, quality assessment using AMSTAR and assessment of overall risk of bias has been completed.

Flowchart

The research process	Date	Comments
Project plan	2015-11-12	
Grant application		
Project start	2016-01-28	
Data Collection	Finished	
Data analysis	On going	
Final compilation	Autumn 2016	
Report writing/ publication	Autumn 2016	
Final report	December 2016	

Project number:
B5

Principal Investigator:

Inger Wårdh

Co-investigators:
Lena Lindqvist
Birgitta Seleskog
Inger von Bültzingslöwen
Agneta Engström

Title

To promote good oral health in dependent elderly in nursing homes. A model for nursing staff to handle daily oral care

Project overview

Project start	2012	
Calculated end	2016	
Grants awarded	Klicka här för att ange text.	
Source	Public Dental Health in Värmland, the Värmland County Council, The Swedish Freemasons Organisation and “Maria-money” – economical support from the government to increase the quality in elderly care	
Year	2012-2015	

Aim

To develop and test a model to promote good oral health in dependent elderly in nursing homes.

Project description

Background: Studies in longterm care facilities have indicated that oral health is often unsatisfactory. It is important that nursing staff are able to assist dependent care recipients.

Material and methods: After two intervju studies with different professions in elderly care, one with individual interviews and one with a focus group study, an intervention study was performed. Two nursing homes were randomly selected for intervention and control. Interventions included weekly support from dental hygienists on oral hygiene procedures, prescriptions for individual oral hygiene procedures, and oral care organisational issues. The residents' oral health, measured by dental plaque levels, gingival bleeding and the Revised Oral Assessment Guide (ROAG), was evaluated before and after three months. Attitudes among the staff to oral healthcare were collected through a questionnaire.

Results: All nursing staff at both the intervention and control nursing homes participated. The residents' plaque levels improved significantly after intervention and a trend toward less bleeding was observed. Overall ROAG scores decreased after intervention in the intervention nursing home, but did not in the control nursing home. Gum values improved significantly compared with control values. Staff valued more frequent contact with dental services.

Status June 2016

The project is finished. One paper is published, one paper is submitted and one paper is under writing process. The project is registered in Clinical Trial.

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Flowchart

The research process	Date	Comments
Project plan	2012	Klicka här för att ange text.
Grant application	2012-2015	Klicka här för att ange text.
Project start	2013	Klicka här för att ange text.
Data Collection	2013-214	Klicka här för att ange text.
Data analysis	2014-2016	Klicka här för att ange text.
Final compilation	2016	Klicka här för att ange text.
Report writing/ publication	2013-2016	Klicka här för att ange text.
Final report	2016	Klicka här för att ange text.

Project number:
C1

Principal Investigator:
Urban Ekman

Co-investigators:
Gunilla Sandborgh Englund
Mats Trulsson
Åke Seiger
Pia Skott
Eric Westman

Title

The cognitive changes and neural correlate after rehabilitation of mastication in older people – an intervention study

Project overview

Project start	Feb 2016	
Calculated end	2019	
Grants awarded		
Source		Extern
Year		

Aim

To evaluate the association between masticatory function in elderly and neurocognitive function. By conducting an intervention study in elderly people with impaired masticatory we aim to evaluate this association, and to establish a causal relationship

Project description

Tooth loss and reduction of masticatory function is a risk factor for dementia and cognitive decline. The question of whether this detrimental effect on cognitive function caused by tooth loss is reversible through oral rehabilitation is of particular importance. Although an association between masticatory impairments and neurocognitive functions seems evident, intervention studies on humans is lacking, and a causal relationship has not been established. We aim to conduct an intervention study on older people where rehabilitation of

masticatory functions is performed and evaluated with cognitive measures and brain imaging.

Patients (n=50) between 70 and 79 years of age, who suffer from masticatory impairment (Eichner's index B3- B4 or C1-C4) are recruited at the ACT clinic. Oral rehabilitation is performed as agreed between the dentist and the patient.

Evaluation methods: Subjective and objective mastication ability, neuropsychological assessments (a range of cognitive domains with primary focus on memory and executive functions) and MRI are performed before and 3 months after oral rehabilitation. In a subgroup, retest effects are ascertained by repeated pretest, 3 month after first test.

The cognitive tests will be analyzed as repeated measure ANOVAs with group (experimental and control) and Date (pre- and postrehabilitation) as factors. Group by Date interaction, main effect of group, and main effect of Date analysis will be evaluated.

Brain imaging: Preprocessing and statistical analyses of MRI data will be performed with Statistical Parametric Mapping (SPM) run in Matlab (MathWorks). Movement correction will be performed by realign and unwarp to the first image in the series. To consider groupspecific anatomical brain differences, all patients will be normalized to Monteral Neruological Institute (MNI) echoplanarimaging template. To investigate rehabilitating related changes repeated measure ANOVAs will be performed with group (experimental and control) and Date (pre- and postrehabilitation) as factors.

Status June 2016

Preparatory work

Flowchart

The research process	Date	Comments
Project plan		
Grant application	Oct 2015	
Project start	Autumn 2016	
Data Collection		
Data analysis		
Final compilation		
Report writing/ publication		
Final report		

Project number:
C2

Principal Investigator:
Inger Wårdh

Co-investigators:
Phd Student
Per Stjernfeldt Elgestad

Supervisor
Ann-Marie Boström
Mats Trulsson
Gerd Faxén Irving

Title

Objective and subjective masticatory ability in older individuals

Project overview

Project start	Sept. 2014	
Calculated end	2018	
Grants awarded		
Source	Extern	
Year		

Aim

The aim of this project is to understand which factors affect an older individual's objective and subjective masticatory ability and how they can be measured. As a second aim, the project may reveal knowledge about which treatments should be prioritized to preserve or enhance masticatory ability..

Project description

The importance of masticatory ability increases with increasing age. It is not only of importance for food intake and nutritional status, but also cognitive function. A correlation between cognitive function and masticatory ability has recently been shown in humans and animals. However, understanding which factors affect an older individual's masticatory function is a complicated process. Aspects other than occlusal contacts, occluding pairs or supporting zones may have more significant importance than previously expected.

Therefore it is important to address such factors to identify the type of oral rehabilitation for implementation in older patients.

A significant number of older patients in Sweden, in need of dental care, are eligible for financial support through the county council. This support covers “necessary dental care” allowing both the counties and the dentists to make an informed decision on relevant therapy. In that decision process masticatory ability is an important aspect as one of the intentions with the support is improved nutrition.

The aim of this project is to understand which factors that affect an older individual’s objective and subjective masticatory ability and how they can be measured. The following issues are addressed:

1. A systematic literature review: To identify valid and reliable instruments for assessing objective masticatory ability.

2. A qualitative interview study: To explore older individuals’ experience of their masticatory ability and factors related to this ability.

3. A clinical study: To examine relationships between objective and subjective assessments on masticatory ability and oral status including prosthetic therapy.

4. A clinical study: To examine relationships between objective and subjective assessments on masticatory ability, texture modification and nutritional status.

As a second aim, the project may reveal knowledge about which treatments should be prioritized to preserve or enhance masticatory ability.

Status June 2016

Project number:
C2a

Principal Investigator:
Inger Wårdh

Co-investigators:
Phd Student
Per Stjernfeldt Elgestad

Supervisor
Ann-Marie Boström
Mats Trulsson
Gerd Faxén Irving

Title

Measurement properties of measures for chewing and/or mastication: Protocol for a systematic review

Project overview

Project start	Sept. 2014	
Calculated end	2018	
Grants awarded		
Source	Extern	
Year		

Aim

To identify measures for chewing and/or mastication and evaluate the properties of those measures, to be recommended for use both in clinical and research work.

Research question

Which measures are valid and reliable to use for assessing objective masticatory ability in older individuals?

Project description

Methods/Design

Eligible measures

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All measures designed to assess chewing and/or mastication among older individuals are eligible.

Eligible studies

Inclusion criteria

A study will be included if it is a 1) full text paper, 2) published in English or German and 3) describes the development (‘inauguration paper’ or ‘index paper’) and/or evaluation of the measurement properties (validation paper) of a measure for chewing and/or mastication. The study population should be adults (≥20 years). The study should be a full text paper and the measure/instrument should be a clinical objective measure.

Exclusion criteria

Articles reporting on interview instruments or self reported questionnaires or instruments for proxies will not be considered for the purpose for this review. Articles that report an eligible measure, e.g. as an outcome in a clinical trial without any explicit validation, will not be considered eligible.

Literature search

A systematic literature search will be performed in PubMed, Web of Science and Cochrane. Additional data bases might be considered as we collaborate with experienced librarians from the KI library who will guide the search process. Blocks of search terms will be used in relating to the following aspects:

Construct of interest: Mastication performance, mastication efficacy, mastication assessment, chewing performance, chewing efficacy, chewing assessment. More aspects could be actual if the search process points to a need of a more developed search process.

Target population: Adults older than 20 years will be selected. The search will be limited to humans.

Measurement properties: The highly sensitive PubMed search filter for finding studies on measurement properties developed by Terwee et al. [12] will be used to identify relevant articles.

For each of these search strategies, a thorough list of synonyms will be collected using index terms (e.g. MESH terms in PubMed) linked with other free text words. The synonyms will be combined with the conjunction 'OR'. After that, the searches designed according to the three main aspects will be combined with 'AND' in order to get to the list of publications from which the most relevant could be chosen. A further search will be conducted with the names of the instruments found in the original search. These names will be combined with AND with the requirements for the target population and measurement properties. The references of all the included relevant articles will also be screened. If relevant, websites of professional organizations and institutions will be searched. For all searches, search dates will be provided in the review. A preliminary search in collaboration with the KI library, has revealed that about 10 000 papers have to be screened in the review process.

Study selection

In a first phase, titles and abstracts will be assessed for eligibility. Full text articles will be obtained for the remaining abstracts and again be assessed for eligibility. Each citation will be judged for eligibility independently by two reviewers. Disagreement will be resolved by discussion of all reviewers.

Data extraction

Two reviewers will independently extract data from each article included. Relevant data from all included articles will be summarized in evidence tables. Evidence tables will contain following information:

Characteristics of the instrument: name of measure, domains measured, number of items, origin, publication date, translation to different languages, number of versions, publications.

Characteristics of the study population: geographical location, gender, age, comorbidities.

Results for conceptual models and measurement properties: reliability, validity and responsiveness to change, see table 1 in Apfelbacher et al [13]. Results for interpretability including minimal important difference. The evidence table will be pilot tested.

Assessment of measurement properties of instruments

The predefined quality criteria for rating the measurement properties of instruments recommended by Consensus based Standards for the selection of the health Measurement

Instruments (COSMIN) group will be used to assess the measurement properties of the measures. These relate to the following measurement properties and aspects of measurement properties: reliability (internal consistency, measurement errors, reliability), validity (content validity, structural validity, hypothesis testing) and responsiveness. In addition we will consider whether the development of any instrument included in the systematic review was based on an a priori conceptual framework/model.

Assessment of the methodological quality of included studies

The COSMIN checklist will be used to evaluate the methodological quality of included studies. In the COSMIN checklist four domains are distinguished: reliability, validity, responsiveness, and interpretability with related measurement properties and aspects of measurement properties. For each of the measurement properties the COSMIN checklist consists of 5-18 items covering methodological standards. In addition, each item can be scored on a fourpoint scale (i.e. poor, fair, good, excellent). Taking the lowest rating for each item in one box, an overall score is obtained for each measurement properties separately.

Best evidence synthesis/Data analysis

If several studies exist for one measure, findings will be synthesized by combining then, based on number and methodological quality of the studies and consistency of results as previously suggested.

Status June 2016

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start	Oct 2015	
Data Collection		
Data analysis		
Final compilation		
Report writing/ publication		
Final report		

Project number:
C2b

Principal Investigator:
Inger Wårdh

Co-investigators:
Phd Student
Per Stjernfeldt Elgestad

Supervisor
Ann-Marie Boström
Mats Trulsson
Gerd Faxén Irving

Title

Older individuals' experiences of their masticatory ability

Project overview

Project start	Sept. 2014	
Calculated end	2018	
Grants awarded		
Source	Extern	
Year		

Aim

To explore what subjective factors determine an older individual's experienced masticatory ability?

Research question:

What subjective factors determine an older individual's experienced masticatory ability?

Project description

The method used in this qualitative interview study is grounded theory (GT) [14-15]. GT is an inductive method with deductive elements and can be described as generating hypotheses grounded in empirical data. The method advocates an open ended approach. Sampling, collecting data and analysis is an interactive process proceeding through the study. GT was first described by Barney Glaser and Anselm Strauss [14] and a great

influence comes from the idea of symbolic interactionism. A GT-study aims to find out what is going on in the field of research and how things relate to each other.

GT has different lines of development. Anselm Strauss and Juliet Corbin introduced new technical procedures [15]. The present study is influenced of all three authors.

In GT the concept of constant comparison is essential and is used to describe the idea of continuously comparing data. Theoretical sampling is the process of data collection and means that the researcher jointly collects codes and analyzes data and decides what data to collect next and where to find them. The researcher has to be capable of theoretical sensitivity in order to understand the material, find research questions and formulate the theory as it emerges from collected data. Theoretical saturation is reached when no new relevant information is found in the data collected.

A GT study can be evaluated by criteria including fit, workability, relevance and modifiability. Fitness means that the theory must correspond closely to the collected data, it has to provide a workable understanding and explanation, address problems and processes in the material and allow for variation and change that makes the core theory useful over Date.

Study group

Inclusion criteria

Older individuals (at least 75 years) living in special facilities/nursing homes or living at home with support with daily activities. According to the GT method, the study participants are recruited in a snow boll process; the study starts with one person and according to the data this initial interview reveal, next person will be looked up. Another term for this process is theoretical sampling [15].

Exclusion criteria

Individuals with explicit dysphagia, aphasia, pain from the oral region and neurological disabilities that affect mastication, as well as individuals with explicit impaired cognitive function. As the level of cognitive function may be difficult to determine for the interviewer, all informants will be assessed with Pfeiffer's test, Short Portable Mental Status Questionnaire (SPMSQ) [16].

Low number of teeth is not an exclusion criterion. Since the study aims to evaluate perceived masticatory ability, valuable information of how the dentition affects masticatory ability could be lost if individuals with a compromised dentition would be excluded. Impaired speech function is neither an exclusion criteria. An example of how interviews with such functionally impaired individuals can be made, is presented in Lantto et al [17]. It's important that we do not only collect data from healthy individuals with good functional abilities.

Procedure

The participants will be invited by letter and ensured confidentiality as well as the opportunity to withdraw. Participants who is unable to speak are asked to appoint a representative, who will be contacted by telephone. Verbal consent is given by the participant or his or her representative. Each representative and participant completes a form together, indicating their relationship.

An open interview in a conversational style is conducted. The interview, lasting about 1 h, is tape recorded. The participant is encouraged to speak freely about their masticatory ability and what factors they consider to be related to this function. An interview guide will be developed in cooperation in the research group. When a representative is used, all questions are formulated to the participant who could express him- herself with gestures, mimic and someDates verbal phrases which could be interpreted by the representative. The participant has the opportunity to ask questions during the interview. Attention is taken to reactions of the participants who could not speak to make it possible for the representative to explain more in detail and someDates help the participant to formulate questions. Data collection and analysis are conducted simultaneously and continued until theoretical saturation is reached.

Data analysis

The interviews are transcribed verbatim and analyzed in a coding process according to Strauss and Corbin [17]. The first step is open coding when meaning units are found in the text and formulated in codes. Codes with similar content are then clustered into categories with a more abstract level than the codes. The next phase is to find relations between categories and to describe properties of the categories, axial coding. The final phase is selective coding, where the theory is generated. A core category is pointed out and tested

versus other categories by constant comparison. This core category is describing a process which can be related to all other categories.

The theory is saturated with information from new interviews or recoding earlier assessed data. During the entire process memos are written down in a notebook. The memos are ideas and field notes used as a help to develop the theory.

Calibration is carried out in dialogue in the research group through the coding process.

Status June 2016

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start	Oct 2015	
Data Collection		
Data analysis		
Final compilation		
Report writing/ publication		
Final report		

Project number:
C2c

Principal Investigator:
Inger Wårdh

Co-investigators:
Phd Student
Per Stjernfeldt Elgestad

Supervisor
Ann-Marie Boström
Mats Trulsson
Gerd Faxén Irving

Title

Objective and subjective masticatory ability correlated to other oral related factors in older individuals

Project overview

Project start	Sept. 2014	
Calculated end	2018	
Grants awarded		
Source	Extern	
Year		

Aim

To describe how clinical assessment of objective and patient reported subjective masticatory ability in older individuals are correlated to each other and to oral factors such as number of teeth and their condition, surrounding tissues in the oral cavity, oral motor function, salivation and prosthetic therapy.

Question:

How is objective and subjective masticatory ability in older individuals correlated to each other, and with oral status inclusive prosthetic therapy?

Project description

Methods and materials:

Objective masticatory ability is measured with an adequate instrument based on the results from the systematic literature review in study 1. Subjectively experienced masticatory ability is assessed by validated questionnaires GOHAI [7] and questions based on the results from study 2. Existing dentition is recorded as well as prior prosthetic treatment, both fixed and removable.

The Study population consists of patients, 75 years of age or older, from the Dental Clinic of Medical dental care at Stockholms sjukhem, located at ACT. Retrospective data concerning oral checkups and treatments, is collected from patient records. Older persons of today are a very diverse group and the chronological age only gives restricted information about the health status. The clinic has a rather broad patient panorama, from totally independent persons to those who need daily support in all activities. The material will be divided in three groups based on the dependency level: nondependent, frail and dependent. The first two groups will be collected from patients still living in their own homes, where the frail group have support in daily living. The dependent group will be collected from Stockholms sjukhem.

The exact number of participants depends on which variable will be chosen for power calculation and how the outcome is expected to be clinical relevant. According to other studies in these patient groups, a number of 200-300 seems reasonable (2).

The specific details concerning study 3 is not possible to outline before we have results from study 1 and 2, while the description above should be looked upon as preliminary.

Status June 2016

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start	Oct 2015	
Data Collection		
Data analysis		
Final compilation		
Report writing/ publication		
Final report		

Project number:
C2d

Principal Investigator:
Inger Wårdh

Co-investigators:
Phd Student
Per Stjernfeldt Elgestad

Supervisor
Ann-Marie Boström
Mats Trulsson
Gerd Faxén Irving

Title

Objective and subjective masticatory ability correlated to food texture and nutritional status

Project overview

Project start	Sept. 2014	
Calculated end	2018	
Grants awarded		
Source	Extern	
Year		

Aim

Aim

To describe how objective and patient reported subjective masticatory ability in older individuals are related to food texture and nutritional status.

Question:

How is objective and subjective masticatory ability in older individuals related to food texture and nutritional status?

Project description

Methods and materials:

This study is focused on nutritional aspects. The study material is a subgroup from study 3, consisting of 30 individuals.

The individuals will be served food with three different food textures; “regular texture” , “coarse pates”, and “timbales” (20). These food textures are commonly offered in facilities for older people and in geriatric wards.

The kitchen at Stockholms sjukhem will support the study with the different foodtextures. . There are also commercially products available for facilities and wards that not have the possibility to handle food consistency by themselves.

According to the instruments we have chosen to use in study 3, the different food consistencies will be matched with the mastication ability and nutritional status, measured by SCREEN II (18) and MNA (19).

Food preparation is important in care planning. Equally important is to enhance food intake and nutritional state by prescribing a food texture that is adapted to the masticatory ability. Since the salivary excretion, stimulated by chewing is important for the experience of taste and smell each individual should be encouraged to choose a texture that needs some chewing if possible. . This part of the project will be mainly supervised by the experienced dietician in the supervisor group, Gerd Faxén Irving.

Status June 2016

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start	Oct 2015	
Data Collection		
Data analysis		
Final compilation		
Report writing/ publication		
Final report		

Project number:
C3a

Principal Investigator:
Inger Wårdh

Co-investigators:
PhD-student
Angelica Lantto

Title

Dental implants in the functionally impaired: experience from the patients' perspective

Project overview

Project start		
Calculated end		
Grants awarded		
Source		
Year		

Aim

Edentulousness has a great impact on the individual. Extensive tooth loss is more common among functionallyimpaired individuals. Such groups may have difficulties with removable prostheses. The aim of this qualitative study was to

explore functionally impaired patients' experience of receiving and living with dental implants.

Project description

Materials and methods.

Seventeen patients with several types of functional impairment who had undergone treatment with dental implants were interviewed. Analysis of the open ended questions was

inspired by grounded theory methodology and began at the first interview, proceeding in parallel until no further relevant information could be obtained.

Results. ‘

The implant treatment is a process of normalization’ was identified as the core category. It was related to four other categories: ‘The functionally impaired are also entitled to dental care’, ‘Edentulousness is a burden for functionally impaired individuals’, ‘There is interaction between implant treatment and other aspects of life’ and ‘It is important to understand the implications of implant treatment’.

Conclusions.

Normalization was the motivation for implant treatment. Edentulousness had enhanced the feeling of being different and treatment with dental implants was important for wellbeing. The experience of the treatment process was linked to circumstances of life. Information about procedure, alternative prosthetic constructions and hygiene routines was crucial to the experience and the outcome of the treatment.

Status June 2016

http://www.ncbi.nlm.nih.gov/pubmed/22746200

Project number:
C3b

Principal Investigator:
Inger Wårdh

Co-investigators:
PhD-student
Angelica Lantto

Robert Lundqvist

Title

Tooth Loss and Prosthetic Treatment in Dependent and Functionally Impaired Individuals with Respect to Age and Gender

Project overview

Project start		
Calculated end		
Grants awarded		
Source		
Year		

Aim

The aim of this study was to compare the prevalence of tooth loss and prosthetic treatments in dependent, functionally impaired individuals with the general population

Project description

Materials and Methods:

Data collected from 250 subjects from a register covering dependent and functionally impaired individuals in Sweden were compared with data from matched controls. The collected variables included number of teeth, tooth loss, and prosthetic treatments in the different jaw regions.

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Results:

The study group had a lower mean number of teeth and a higher proportion of complete tooth loss than the control group. Dentures were more common in the study group, and fixed prostheses, including dental implants, were more common in the control group. Gender based differences related to tooth loss were also apparent.

Conclusion:

In spite of a well organized recall system for dental care, differences still existed in tooth loss. The differences were more apparent in older individuals and appeared to be related to general health,functional impairments, and gender. Prosthetic treatment options were unevenly used and only one implant overdenture was found.

Status June 2016

http://www.ncbi.nlm.nih.gov/pubmed/26757332

Project number:
C3c

Principal Investigator:
Inger Wårdh

Co-investigators:
PhD-student
Angelica Lantto

Robert Lundqvist

Title

Oral health, Tooth loss and Treatment needs in Dependent and Functionally Impaired Individuals with Respect to Age, Gender and Socioeconomic factors

Project overview

Project start		
Calculated end		
Grants awarded		
Source		
Year		

Aim

The aim of the study is to examine treatment needs among dependent and functionally impaired individuals compared with a general population.

Project description

Background:

Dependent and functionally impaired individuals have fewer teeth compared with the general population, but it is not known in what extent they are offered treatment and if the treatments correspond to the patients' perceived need.

Materials and Methods:

Sampling has been made from a register covering dependent and functionally impaired individuals in the North of Sweden. Clinical data from 352 individuals will be analyzed and compared with the results from an epidemiological survey among the general population in the same geographical region. The patient´s perceived needs will be analyzed by results from questionnaires.

Status June 2016

Data collection is made

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start		
Data Collection		
Data analysis	June 2016	
Final compilation		
Report writing/ publication		
Final report		

Project number:
C3d

Principal Investigator:
Inger Wårdh

Co-investigators:
PhD-student
Angelica Lantto

Robert Lundqvist

Title

Associations between Oral health, Tooth loss, Quality of life and General Health Factors in Dependent and Functionally Impaired Individuals

Project overview

Project start		
Calculated end		
Grants awarded		
Source		
Year		

Aim

To analyze associations between oral health, tooth loss, quality of life and general health factors in dependent and functionally impaired individuals.

Project description

Background:

Dependent and Functionally Impaired individuals are reported to have decreased oral health compared with a general population.

Materials and Methods:

Data collection is made by questionnaires and assessment tools.

Status June 2016

Data collection is made

Flowchart

The research process	Date	Comments
Project plan		
Grant application		
Project start		
Data Collection		
Data analysis	June 2016	
Final compilation		
Report writing/ publication		
Final report		

Project number:
C4

Principal Investigator:
Weili Xu

Co-investigators:
Nancy Pedersen
Inger Wårdh
Debora Rizzuto

Title

Teeth connect to thought: the impact of tooth loss on cognitive aging and dementia

Project overview

Project start	2016	
Calculated end	2020	
Grants awarded		
Source	KID	
Year	2016-2019	

Aim

The ultimate goal of this project is to investigate the impact of tooth loss on cognitive aging and possible mechanisms (genetic background, inflammation, vascular and nutritional pathways) linking dental health to cognitive decline.

The general goal can be achieved through addressing four specific aims below to answer a series of research questions.

Project description

Studies planned. In this doctoral project, four individual studies are designed to address the four specific aims above respectively, by which the ultimate goal of this project can be achieved. The four studies will be conducted using the data from SNAC-K, SATSA and HARMONY.

Study I: “Tooth loss and cognitive functions among dementia free elderly people”. This study is based on the crosssectional data in the SNAC-K addressing Aim 1.

Study II: “Effect of tooth loss on cognitive decline over Date: findings from a 30-year longitudinal study”. This study addresses Aim 2 using follow up data from the SATSA.

Study III: “Tooth loss in relation to the risk of cognitive impairment: a population based twin study”. This study is carried out to address Aim 3 using data from the HARMONY study.

Study IV: “The impact of tooth loss on the progression from cognitive impairment to dementia”. This study is based on the 6-year follow up data and MRI data from the SNAC-K for Aim 4.

Status June 2016

Recruitement of a PhD candidate (oct 2015)

Flowchart

The research process	Date	Comments
Project plan	Oct. 2015	
Grant application		
Project start		
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Report writing/ publication		
Final report		