

Melissa Adiatman, DDSEducational Background:

2007 DDS, Faculty of Dentistry Universitas Indonesia, Jakarta

2008 - 2012 PhD candidate, Department of Oral Health Promotion,
Tokyo Medical and Dental University, Japan

Research in Japan:

Functional Tooth Units and Nutritional Status of Older People in Care Homes in Indonesia
Gerodontology 2012 (in press)

Functional Tooth Units and Nutritional Status of Older People in Care Homes in Indonesia

Objectives: To investigate the relationship between functional tooth units (FTUs) and nutritional status.

Methods: One hundred females (mean age: 72.4 ± 8.2 years) at four private care homes in Jakarta, Indonesia were interviewed and clinically examined. The oral examination included the assessment of teeth, prosthetic status, and number of FTUs. The total number of FTUs was further divided by tooth composition: natural tooth against natural tooth (NN-FTUs), natural tooth against denture (ND-FTUs), and denture against denture (DD-FTUs). Nutritional status was evaluated using the Body Mass Index (BMI) and the Mini Nutritional Assessment (MNA).

Results: The mean numbers of teeth present, NN-FTUs, ND-FTUs, DD-FTUs, and total FTUs were 13.1 ± 10.4 , 1.7 ± 3.0 , 1.2 ± 3.3 , 0.4 ± 1.2 and 3.3 ± 4.4 , respectively. The mean BMI and MNA scores were 24.8 ± 5.0 and 22.6 ± 2.8 , respectively. Subjects with a normal BMI had a significantly higher total number of FTUs (3.6 ± 4.6) compared with underweight subjects (0.1 ± 0.3). Subjects with a normal MNA had a significantly higher number of NN-FTU (2.6 ± 3.7) compared to those who were at risk or in a state of under-nutrition (1.2 ± 2.4).

Conclusion: This study revealed significant relationships between the number of FTUs and nutritional status. Keeping the posterior occlusion should be emphasized in order to maintain good nutritional status in older subjects.

Takashi Zaitu, DDS, PhDEducational Background:

2000-2006 Faculty of Dentistry, Tokyo Medical and Dental University (TMDU)

2007-2011 Oral Health Promotion, Graduate School of Medical and Dental Sciences,
TMDU

2010 Accredited Member by the Japanese Society for Dental Health (JSDH)

2011 Doctor of Philosophy (PhD), Tokyo Medical and Dental University

Professional experience:

2009-present Lecturer, Takasaki Dental Hygienist School

2011-present Assistant Professor, Dept. of Oral Health Promotion, Graduate School of
Medical
and Dental Sciences, TMDU

Dental education system in Tokyo Medical and Dental University

Dental workforces in Japan in 2010 are 101,576 dentists, 103,180 dental hygienists and 35,413 dental technicians. Dental education system in Japan in 2011 is dentist for 6 years course (29 schools: national;11, public;1, private;17), dental hygienist for 3 years course (148 schools) or 4 years course (8 schools),and dental technician for 2 years course (54 schools) or 4 years course (2 schools).

The process to become a dentist in Japan is to take an entrance examination of dental school (6 years course), common achievement test consist of CBT (Computer Based Testing) and OSCE (Objective Structured Clinical Examination), graduate and hold a diploma from dental school, take a national board examination (Passing rate: 70%), get the dental license from Ministry of Health, and become a resident (1-2 years) of compulsory.

The education system in Tokyo Medical and Dental University (TMDU) which is the largest national dental school is dentists for 6 years (52 students /year), oral hygienist for 4 years (29 students /year) ,and dental technicians for 4 years (15 students /year). School for dentistry in TMDU consists of lots of lectures and practical courses, sometimes foreign scholars give lectures, training of dental treatment, Problem Based Learning (PBL tutorial) and others. To focus on preventive dentistry practice (4th grade), we conduct role play of oral health guidance, oral malodor, plaque control practice, fluoride practice, dental examination practice and others to teach the principles and practices of oral health promotion for dental students.

Prof. Yoko Kawaguchi, DDS, PhDEducational background:

1973-1979: Faculty of Dentistry, Tokyo Medical and Dental University

1994-1995: Visiting research fellow, The University of Melbourne, Australia

1998 : Visiting research fellow, NIDR/NIH Bethesda, USA

Visiting research fellow, The University of Copenhagen, Denmark

Professional experience:

1996-1997: Junior Associate Professor, Department of Preventive Dentistry, TMDU

1998-2000: Junior Associate Professor, Division of International Health, TMDU

2000-present: Professor, Department of Oral Health Promotion, TMDU

2003-present: Head, Fresh Breath Clinic, Dental Hospital, TMDU

School-based oral health promotion programs in Japan

Health promotion is the process of enabling people to increase control over, and to improve their health. Therefore health education is an important and crucial component of health promotion. To conduct effective oral health education programs at school, dental professionals must always take into account of health literacy level of the schoolchildren. Unlike other diseases, people can directly see and recognize the symptoms of dental caries and gum inflammation, and it is possible for them to detect the diseases at an early stage. Because of these special characters, school oral health education program have an advantage in motivating schoolchildren to stop unhealthy behaviors and to prevent development of oral and general health hazards.

Various oral health promotion programs have been implemented at school all over the world. I would like to introduce new challenges for effective oral health promotion program that we have experienced in Japan. We provided oral health promotion programs targeting oral malodor prevention for high school students and one year later we analyzed the effects of the program by comparing the changes of oral health outcomes between intervention and control groups. The intervention group, compared with the control group, had a significantly higher proportion of students who improved or maintained good oral health status. Among students in the intervention group, the change was more evident in subjects with detectable oral malodor at the commencement of the program. The results indicate that the students with oral malodor may become more interested in and motivated to clean their mouth more carefully and intensively by receiving the program.

This new strategy implies that it is of great benefit to embed an oral health education program focusing on oral malodor prevention in the school oral health curriculum, because it may effectively act as a trigger to drive students to favorably change their oral health behavior.

Masayuki Ueno, DDS, PhDEducational Background:

- 1986 D.D.S. School of Dentistry, Kagoshima University, Japan
1990 Ph.D. Department of Preventive Dentistry, Tokyo Medical and Dental University, Japan
1994 M.P.H. School of Public Health, Behavioral Sciences Program, University of California at Berkeley, USA
1995 Postdoctoral Fellow, Department of Dental Public Health and Hygiene, University of California at San Francisco, USA
1996 Residency in Dental Public Health, Department of Dental Public Health and Hygiene, University of California at San Francisco, USA


Professional experience:

- 2008 Assistant Professor, Department of Oral Health Promotion, TMDU, Japan
2009- Chief Dentist at Fresh Breath Clinic, Dental Hospital, TMDU, Japan
2010- Associate Professor, Department of Oral Health Promotion, TMDU, Japan
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Oral function promotion activities for the elderly Japanese

In Japan, the elderly population, those aged 65 years or older, has been increasing rapidly. The Ministry of Health, Labour and Welfare estimated that they comprised around 23% of the total population in 2010. In a super-ageing country, oral functional activities such as tongue and lips motor-skills, salivary flow rate and taste sensation are important elements for the healthy life of the elderly. Oral functional impairment reduces chewing efficiency, influences nutritional deficiencies and deters the elderly from the pleasure of eating and communicating with others, which may ultimately lead to social isolation.


Therefore, it is necessary to provide oral function promotion program at an early stage for the independent elderly before they begin to suffer from oral problems. However, few studies have investigated the improvement of oral function in the independent elderly. I am going to present the result of study which provided an oral function promotion program for the independent elderly and evaluated the changes in oral health status and oral function by comparing effects of the intervention with the control groups. I am also going to introduce oral function exercises such as facial muscle exercise, tongue exercise and salivary glands exercise, which are taught in the program.



Departement of Preventive and Public Health Dentistry
Faculty of Dentistry, University of Indonesia


Student Learning Process on Preventive and Public Health Dentistry

Anton Rahardjo, DDS, MSc(PH), PhD
Head of Department
TMDU, Tokyo-Japan, March 2012




Outline
General Infomation about Indonesia
Compatacne Based Curriculum

INDONESIA



- Worlds largest archipelago consisting of 17,508 Islands
- Worlds 4th most populous country, comprising of more then 200 millions citizens, with approx. 60 million poor
- 59% of Indonesian live in Java Island, which is only 7% of the entire Indonesian area

Fact Findings




- ❖ Utilization of dental care were dominated by those who had higher sosioeconomic status, had health insurance, and those who reside in urban Java Island.
- ❖ Only 1.1% of the Indonesians went to the dentist for preventive care.

Dental Health of Children: Study of Suburb Areas in Indonesia



7 out of 10 children aged less than 5 years old have in avarage 3 to 4 decayed teeth

50% mothers start to brush their childrens teeth in the age of more then 1 year

What can we do?

Competance Based Curriculum was implemented as a basis of learning process in The Indonesian Dental Schools

1st Competence

Diagnosing community oral health problems

This competence can be achieved through:

1. **Identifications of Community Oral Health Problems**
(Survey, epidemiology study, evidence Based Dentistry)
2. **Identifying caries risk factors and Planning Oral Health Problems Based on priority**

2nd Competence

Promoting and preventing oral health care

Categorized to:

Individual, Family and community approach

- **Posyandu**
Integrated Health Post for children under 5 years old and expecting mothers
- **UKGS**
School Based Dental Health Programs
- **Posbindu**
Integrated Health Post for Elderly

3rd Competence

Using information technology for oral health promotive and prevention programs

Creating New Tools to Promote Dental Health

"Dental Health Card" to evaluate caires risk factors

4th Competence

Work in team and able to build effective and efficient networking for optimal oral health programs

This competence can be achieved through:

1. Programs with Community Health Center
2. Collaboration with Private Sector
3. Eduvan Programs to Promote Oral Health

5th Competence

Applying individual and community behavioral concept

This competence can be achieved through:

1. Cadre/female volunteer training programs
2. Assisting Cadre/volunteer to do dental health education and tooth brushing in the community integrated post

THANK YOU

Increasing Mother's Dental Health Care Awareness in Decreasing Early Childhood Caries (ECC) by Community Education Programs in Buaran Village

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Department of Preventive and Public Health Dentistry
Faculty of Dentistry, University of Indonesia

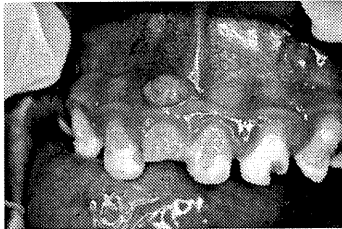
Introduction

ECC Study in Jakarta-Tangerang

Heriandi (2008) reported that prevalence ECC in several area in Indonesia had varied in between 61%-85%.

Febriana et al (2008) had describes the prevalence ECC of children age between 12-38 month in DKI Jakarta was indicated 52,7%, with def-s score was 2,85

Early Childhood Caries (ECC)



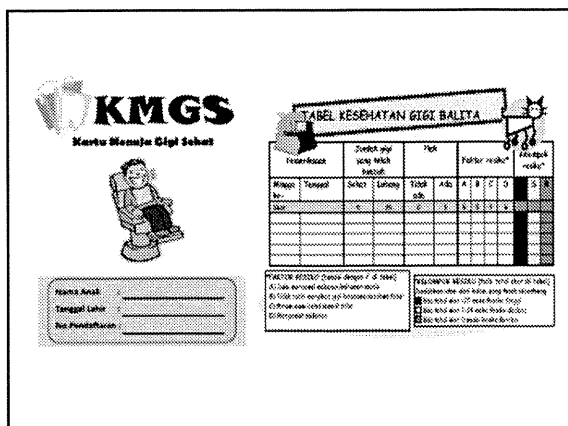
Objective

- To increase dental health care awareness of mothers in decreasing ECC prevalence. These was obtained by educating volunteers woman/preventive dentistry assistant in Buaran village, Tangerang by the Department of Preventive and Public Health Dentistry Faculty of Dentistry Universitas Indonesia.

Method

- Dental students were educated in the Department of Preventive and Public Health Dentistry
- Community educating program:
 - Educating volunteers women in Integrated Health Care Post (Posyandu) and Early Childhood Schools (PAUD)
 - Dental health survey / dental examination
 - *Streptococcus mutan strain/DNA* examinations
 - Caries risk evaluation of children by their mothers using the Dental Health Card (KMGS)

- The subject as participants are the mother who have children under 3 years old, in ordinary visiting Posyandu minimal ones/month, totally 60 respondent mother & child.
- All respondents receive dental examination, buffer saliva, dental plaque, and receive dental health education about how to prevent early childhood caries.



RESULT

Tabel 1. Plaque Score of children Baseline

Group Plaque Index	Intervention		control	
	N	%	N	%
0.00 - 0.69	8	25.8	8	34.8
0.70 - 1.29	10	32.2	8	34.8
1.30 - 1.89	13	42	5	21.7
1.90 - 2.49	0	0.0	2	8.7
2.50 - 3.0	0	0.0	0	0.0
Total	31	100.0	23	100.0

Tabel 2. Plaque Score of children after 4 month intervention

Group Plaque Index	Intervensi		control	
	N	%	N	%
0.00 - 0.69	19	61.3	9	39.2
0.70 - 1.29	10	32.3	7	30.4
1.30 - 1.89	2	6.4	5	21.7
1.90 - 2.49	0	0.0	2	8.7
2.50 - 3.0	0	0.0	0	0.0
Total	31	100.0	23	100.0

Tabel 3. Mature Plaque Baseline

Group mature plaque	Intervensi		control	
	N	%	N	%
0 - 1	25	80.6	19	82.6
2 - 3	3	9.7	4	17.4
4 - 6	3	9.7	0	0.0
Total	31	100.0	23	100.0

Tabel 4. Mature Plaque after 4 month intervention

Gr4oup Mature plaque	Intervensi		control	
	N	%	N	%
0 - 1	30	96.8	17	73.9
2 - 3	1	3.2	5	21.7
4 - 6	0	0.0	1	4.4
Total	31	100.0	23	100.0

Tabel 5. Comparing of Plaque Index baseline and intervention group

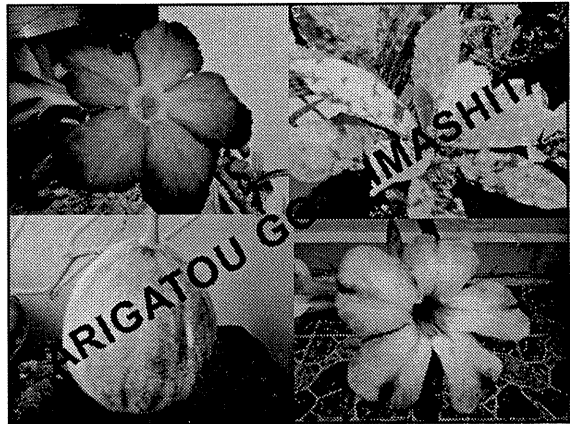
Plaque Index	Baseline (p)	1 month	4 month
Baseline (p)	-	.000*	.000*
Follow-up 1 (p)	.000*	-	.368
Follow-up 2 (p)	.000*	.368	-

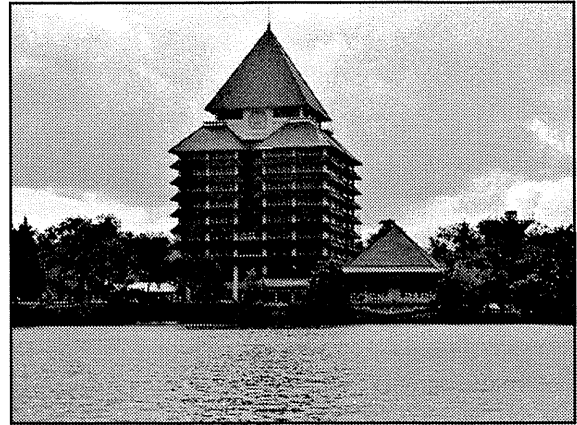
Tabel 6. Comparing plaque index between control group and intervention group after 4 month study

Plaque Index group	Mean	SD	Sig. (2-tailed)
Control 4 month	1.0580	.54265	.007*
Intervensi 4 month	.6835	.35325	

Conclusion

The role of volunteers women/preventive dentistry assistants are very important in increasing mother's awareness which cause the decreasing ECC prevalence of children under five year old.





Community empowerment as part of the role of public health centers in Indonesia

An experience in Serpong Community

Armasastra Bahar
Faculty of Dentistry
University of Indonesia

Community empowerment is one of the role of public health centers in Indonesia. The aim of empowering community is to improve life quality of Indonesian people through developing of oral health by applying self oral health care by giving them enough information, motivation, and the skills needed. Based on characteristic from the communities that showed its own risk factor such as community of under five year old children, pregnant mother, school age children and elderly people. These communities are "Posyandu", "Posbindu" and "UKGS". Oral health promotion through community empowerment projects was performed based on specific intervention prior to the arising problem. The result showed that the project has continuously, great enthusiasm and increasing the dental health services utilization.

Public Health Center

The role of Public Health Center:

- Responsible to the health of community within working area
- Implementation of referral system
- Working in integrated system
- Community empowering

Empowering people → self health care

- **Information**
- **Motivation**
- **Skills**

Main problem

- **Periodontal Disease**
- **Dental Caries**

The problem has increased due to :

- **Barriers in access to dental health services**
- **Lack of awareness of seriousness of oral health**
- **Insufficient health care insurance**
- **Lack of transportation**
- **Limited income**
- **Discrepancy between perceived need and normative need**
- **Low population to dentist ratio**

The strategy in the implementation of oral health care:

Increasing oral health awareness of the community through oral health promotion and education

Oral Health Development through Community Empowerment

An experience in Serpong community

SERPONG

- **Suburban area**
- **Sentinel area**
- **Collaborate with local government and Public Health Center**

The main purpose of the project

To improve a life quality of Indonesian people through developing of oral health

The community with risk factor

- Under five year old children
 - Pregnant mother
- Elementary school children
 - Elderly people

Potential Groups for Empowering Community

Villages Health Volunteers
 School Teachers
 Parents of the pupils
 Trained pupils for Health Promotion (Little Doctor of Elementary pupils)

Target in the community

- “POSYANDU” (Community Integrated Health Post)
- “UKGS” (School Dental Services)
- “POSBINDU” (Community integrated health post for the Elderly)

“POSYANDU”

Integrated health post in the community

- Health services unit provided by the community and for the community, supported by Public Health Center staffs
- All activities managed by village volunteers
- 5 basic health programs : family planning, maternal & child health, nutrition, immunization, diarrhea disease control to women and children in the village community

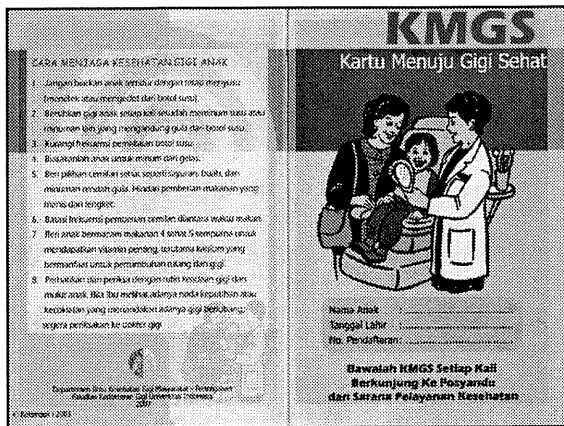
“POSYANDU” has become a forum of communication where mothers are brought together to share relevant experience of the children health care in culturally acceptable context concerning their practices including the selection and preparation of nutritious food both affordable and acceptable in their children

5 desks service system in “POSYANDU”

1. Registration
2. The weighing of the under five year old children/ Oral health examination
3. Filling in Health Cards/ Better Oral Health Cards (BOHC)
4. Individual Health Education (HE)/Dental Health Education (DHE)
5. Professional health services (family planning, antenatal care, immunization, scaling, tooth extraction, etc)

DHE in desk 4

- DHE is given at the 4th desk focused on the problem found at the 3rd desk using BOHC
- DHE is given by Volunteers who has been trained by Public Health Center.
- The right method in DHE is by showing each person’s dental problem and then giving the problem solving focused on their own problem (individual risk factors)



Progress of the project

- DHE integrated into “POSYANDU” activities in Serpong area are fully accepted by the community :
 - The program fulfill their oral health needs
 - Program is easily understood
 - Easily accessed by the community
 - Perceived as high quality program
 - Empowering the family and not consider them as object of health program but self care approach.
- The projects serve high quality training to the volunteers with impact as follows:
 - High motivation and commitment
 - They provide high quality services to the community
 - More confidence of their status as volunteers
 - At the end, more sustainable community efforts

“UKGS”

School Dental Services

- School Teachers
- The trained students (to promote dental health among students)
 - The parents
- Public Health Center staffs

Activities

- Dental screening
- Dental Health Education (incl. Training for students)
- Supervised tooth brushing drills
- Fluoride mouth rinsing
- Surface protection and Fissure sealant application
- Simple dental treatment (ART, Scaling, Tooth extraction)

- Surface protection
- Fissure sealant application
- Simple dental treatment : ART, Scaling, Tooth extraction

“POSBINDU”

Integrated Health Post for the Elderly in the community

- Survey to elders in Serpong community : High prevalence of dental caries, periodontal disease and tooth loss
- Because of under knowledge of the elders about maintaining of the oral health and less eager to use the Public Health Center

The problem

Misperception between oral health and disease concept in Elderly at Serpong community

Good Oral Health

- Good mastication and nutrition related to absorption process
- Supports energy and stamina of the elders to do the daily activities
- Helps the elders to be an active persons

Program

- Increasing the knowledge of elders about oral health
- Trained volunteers to help elderly on basic knowledge of oral health as guidance to self-maintaining their oral health:
 - the important of tooth role in the mouth
 - tooth restoration
 - dentures

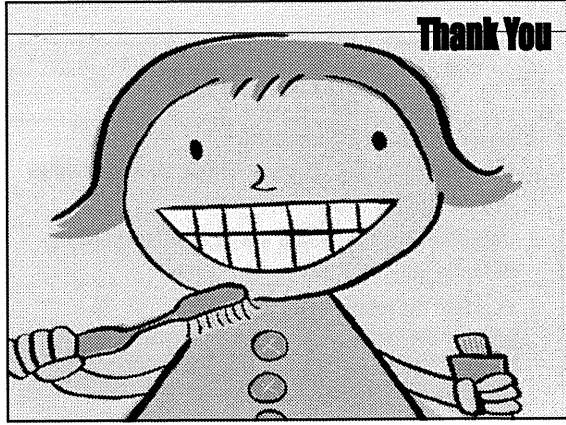
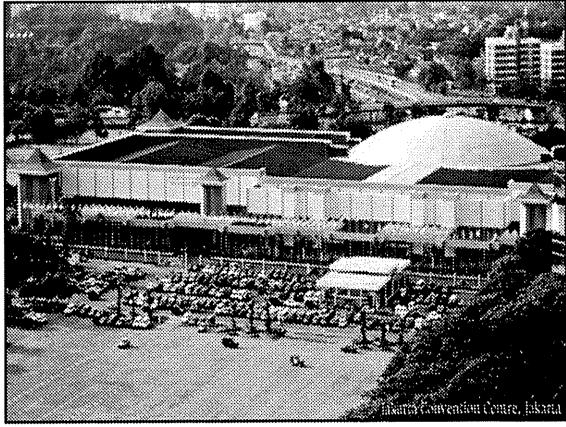
Dental Health Education Instruments

- Banner : to get elders attractions
- Booklet : to enriched village health volunteers knowledge for elders in purpose to share the information to the elders
- Flip-chart : media for volunteers to explain to the elders about oral health with designed to make easy in educating the elders. There is notes behind the pictures are for the volunteers explanation easily
- Better Elderly Oral Health Card (BEOH-Card) : Self assessment of oral health



- Outcome of the program are:
 - To increase quality of life of the elderly
 - More access to health care facilities at the right time, right choice and right purpose
 - Improve community involvement and support to the elderly problem
 - At the end, improve general health and quality of life

- KPPIKG2013**
- The 16th Scientific Meeting & Refresher Course in Dentistry
 - Faculty of Dentistry, Universitas Indonesia
 - Theme : Shaping the future of oral health. Bridging science, competence and clinical practice
 - Date : February 27 – March 2, 2013
 - Venue : Jakarta Convention Center



A Study on Oral Health of Older Indonesian:

Functional tooth units and nutritional status of older people in care homes in Indonesia



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Department of Oral Health Promotion

Accepted for publication in: Gerodontology, 2012

TOKYO MEDICAL AND DENTAL UNIVERSITY

INTRODUCTION

Characteristics of older population in Indonesia

- Indonesians 60 years+ in 2010 → 21.8 millions (9.8%)
- Life expectancy at birth (2008) → 70.7 years
- Living arrangements:
 - Living in their own household (57.6%)
 - Live together with their families and relatives (24.6%)
 - Live in institutions/care homes (private and public)
- Family are the primary caregivers for the older people
- No comprehensive system of social security, health care, and social services for the older people



Active Ageing: A policy framework. WHO 2002

Total number of elderly (in millions)

2002		2025	
China	134.2	China	287.5
India	81	India	168.5
USA	46.9	USA	86.1
Japan	34	Japan	43.5
Russian Federation	26.2	Indonesia	35
Indonesia	17.1	Brazil	33.4
Brazil	14.1	Russian Federation	32.7
Pakistan	8.6	Pakistan	18.3
Mexico	7.3	Bangladesh	17.7
Bangladesh	7.2	Mexico	17.6
Nigeria	5.7	Nigeria	11.4

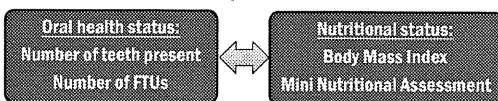
Indonesia → projected to be the 5th country with largest elderly population

Background

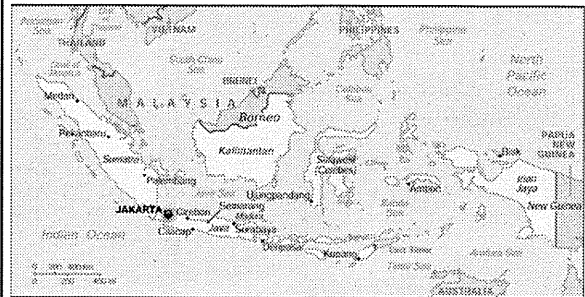
- Comprehensive data on oral health of elderly is scarce
- Indonesia Basic Health Survey 2007
Indonesian 65+ :
 - Prevalence of edentulism = 17.6%
 - DMFT = 18.3 (1.2 DT, 17.0 MT, 0.1FT)
 - The proportion who replaced missing teeth with dental prosthetic = 14.5%
- 248 public and private care homes
↳ 12 of them in Jakarta

OBJECTIVES

1. Describe baseline conditions: socio-demographic, general health, and oral health of older people living in care homes
2. Determine the nutritional status of subjects using: BMI and MNA indices
3. Evaluate the relationship between:



METHODS



METHODS

- 4 private care homes in Jakarta
- 195 female subjects recruited



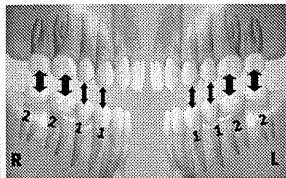
15 subjects : refused to participate
 80 subjects : physically very ill hospitalized
 psychological disorders

- 100 female subjects participated
- Mean age: 72.4 ± 8.2 years

Questionnaire Survey and Clinical Examinations

- Socio-demographic information:**
- Age
 - Highest education level achieved
 - Marital status
 - Previous occupation
- General health examination:**
- Number and type of systemic ailments-categorized: 8 groups
 - Current medications
 - Ability to perform ADL (Barthel Index assessment)
- Oral health status:**
- Edentulous state
 - Dental prosthetic status
 - Number of teeth present, decayed, and filled teeth
 - FTU calculations
- Oral health behaviors:**
- Oral hygiene habits & freq.
 - Assistance in OH practices
 - Snack eating habits
 - Last visit to a dentist
 - Purpose of visiting a dentist

FTUs CALCULATION



Functional Tooth units:
 2 opposing premolars = 1 FTU
 2 opposing molars = 2 FTUs

↓

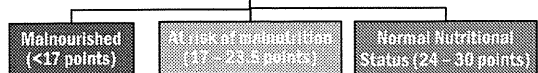
Complete dentition = 12 FTUs

- **Total numbers of FTUs :**
 pairs of opposing posterior natural teeth or prostheses (fixed or removable dentures)
- **FTUs by tooth composition:**
 Natural - Natural tooth (NN - FTUs)
 Natural - Denture tooth (ND - FTUs)
 Denture - Denture tooth (DD - FTUs)

Mini Nutritional Assessment®

- **MNA® is a screening tool to help identify elderly persons who are malnourished or at risk of malnutrition**
- **It comprised of 18 items, grouped into 4 domains:**
 - Anthropometric assessment : BMI, MAC, CC and, weight loss
 - General assessment : lifestyle, medication, mobility
 - Short dietary assessment : meals, food, and fluid intake
 - Subjective assessment : self perception of nutrition

Full MNA® Score



Body Mass Index WHO classification

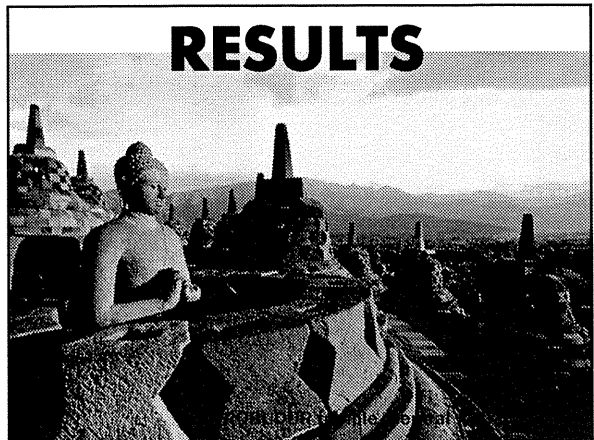
Body Mass Index (BMI) : The weight in kg divided by the square of the height in meters (kg/m²)

- A simple index commonly used to classify :
 underweight, over-weight, and obesity in adults.

Classifications	BMI (kg/m ²)
Underweight	<18.5
Normal range	18.5 - 24.9
Overweight	≥25.0

Study protocol approved by the Ethics Committee of University of Indonesia (No. 63/2009) and Tokyo Medical and Dental University (No. 539)

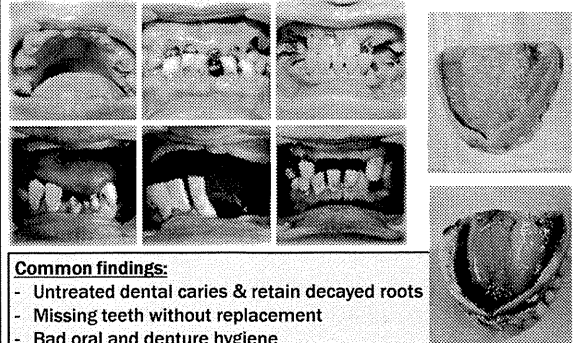
RESULTS



Characteristics of Study Subjects

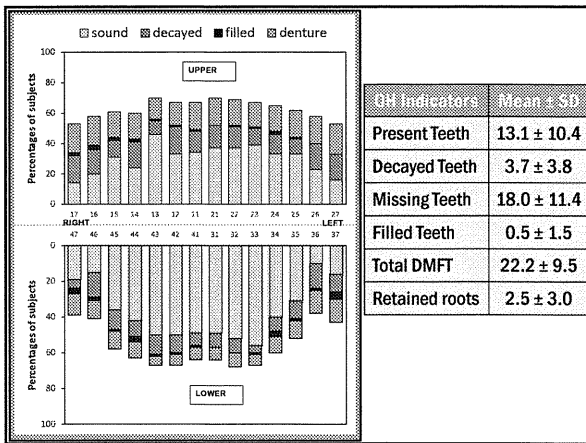
- 38% no formal education, 35% only primary education, 27% secondary or higher education
- 4% were married, 96% single/widower
- 34% had previously been employed
- **General health status:**
 - 71% heart and circulation disorders
 - 69% musculoskeletal disorders
 - 33% nutritional, metabolic or endocrine disorders
- 68% consuming prescribed medications
- **Ability in performing ADL:**
 - 41% independent, 54% partially, 5% totally dependent

Oral Health Status



Common findings:

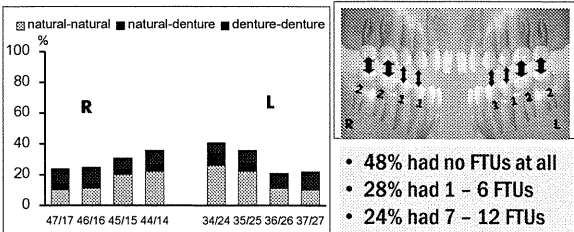
- Untreated dental caries & retain decayed roots
- Missing teeth without replacement
- Bad oral and denture hygiene
- Gingivitis and Periodontitis



Dentition and Prosthetic Status

Dentition status	Denture status	N (%)
Dentate (62%)	No denture is needed	4 (6.4%)
	With partial denture	8 (12.9%)
	Need denture reparation	5 (8.1%)
Edentulous in either jaw (20%)	Without denture	45 (72.6%)
	With partial denture	6 (30%)
Edentulous (18%)	Without denture	14 (70%)
	With full denture	3 (16.7%)
	Use only upper denture	5 (27.8%)
Total	Without denture	10 (55.5%)
		100(100%)

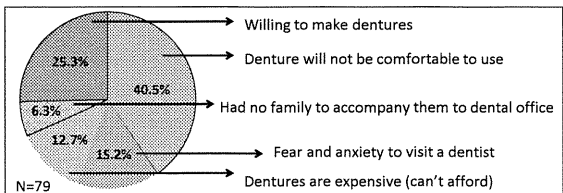
Distribution of FTUs

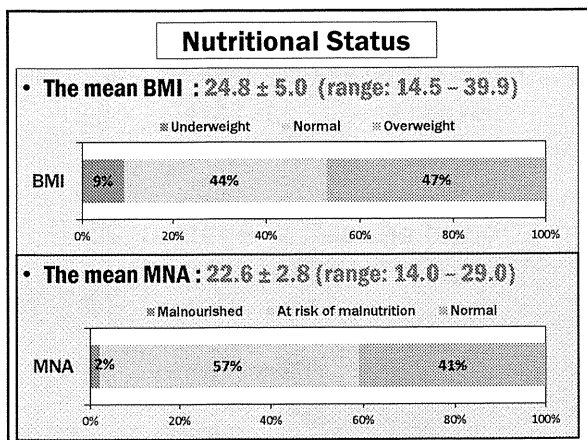


- Mean of total FTUs = 3.3 ± 4.4
- Fewer than 50% of subjects retained/restored their FTUs

Oral Health Behavior

- 80% brushed their teeth regularly
- 97% ate unsupervised snacks/sweets between meals
- 40% → never visited a dentist in their entire lifespan
- 79 subjects had some dental prosthetic needs





Relationship between oral health status and nutritional status

BMI	n	teeth present	total FTUs
Underweight	9	8.2 ± 8.3	0.1 ± 0.3
Normal range	44	13.8 ± 10.6	3.6 ± 4.6
Overweight	47	13.5 ± 10.5	3.6 ± 4.5

MNA categories	n	teeth present	total FTUs
Malnourished or at risk of malnutrition	59	14.7 ± 11.2	1.2 ± 2.4
Normal nutritional status	41	12.1 ± 9.7	2.6 ± 3.7

*p<0.05

- No significant difference in the number of teeth present among BMI classifications or MNA categories
- There were significant differences in total FTUs between subjects with normal-overweight and those with underweight

DISCUSSION

- Subjects were residents only from private care homes
 - Serve older people with a better socioeconomic background
 - The proportion of missing teeth was very high
 - The utilization of dental care services was still low
 - High needs for dental prosthesis replacements
- The mean BMI was higher compare public care home residents
 - Different life situations between public and private care homes
- In population where the remaining posterior teeth often not in occluded positions → FTUs may be more relevant
- The mean FTUs in this study was very few
 - Difficult to determine the minimum number of FTUs needed to maintain good nutritional status

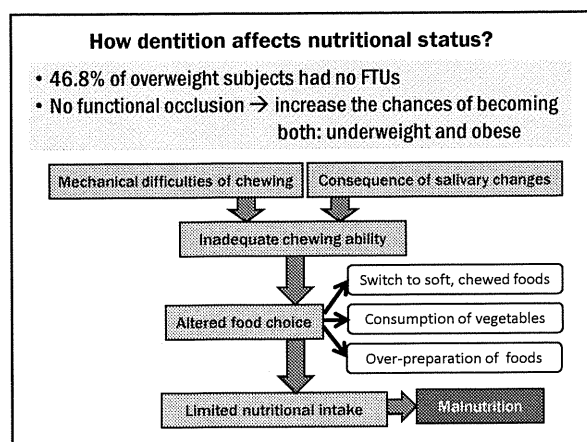
Why FTUs is better?

1. Include the functional arrangement of the teeth
2. Discriminate and describe the number and the type of dentition

↓

Represent a more accurate measure of masticatory potential compare to the number of teeth present

Illustration modified and taken from Hildebrandt et.al 1997



CONCLUSIONS

- Elderly in care homes had:
 - poor dental health & high prosthetic needs
- Dentition status in relation to nutritional status were better represented by FTUs rather than number of teeth present
- Subjects with few FTUs → tended to be underweight, malnourished, or at risk of malnutrition
- Keeping natural teeth and posterior occlusion through dental prosthetics replacement is important