PENGEMBANGAN KONSEP *ACTIVITY OF DAILY LIVING* (ADL) PADA LANSIA BERBASIS SINDROMA GERIATRIK, PENYAKIT DAN UMUR
Dalam rangka Skrining dan Rujukan Lansia

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GERIATRIC SYNDROME

SUMMARY

Population aging and urbanization are a global trend characterizing this millennium. Around the world, the proportion of the population of 60 years and over (elderly) grows very fast compared to other age groups. It is estimated that the growth of elderly proportion from 2000 to 2025 to be doubled across the globe, from 606 million (10% of the total world population) to 1.2 billion (United Nations 2003, 2006). Changes in population structure affect the elderly population dependency burden rate. Susenas results indicated that the rate of elderly population dependency ratio in the period of 2003 - 2007 showed an increase. (CBS, 2007).

Developing countries, including Indonesia, are experiencing an epidemiological transition from infectious diseases and acute conditions to chronic and degenerative diseases (WHO, 2005). In addition to disease problems, there is a special problem faced by elderly that is the normal physical change due to aging process that cannot be avoided because they are natural, often referred to as geriatric syndrome (Djaelani M, 2004). The prevalence of disability for elderly age $\geq$ 75 years is 17.2% and for elderly aged $\geq$ 85 years is 33.8% (Ming-yuan et al, 2001). The prevalence of disability as measured by assessment of ADL (activity daily living) and IADL (instrument activity daily living and there is a growing trend with increasing age (Handayani, 2006).

The development of public health science has led us to the new paradigm in the world health development, including Indonesia. The essential of the health paradigm is the shift from medical care to health care so that any efforts to control health problems emphasizes the aspects of improvement (promotive) and prevention (preventive) than those of treatment (curative) (MOH , 2005). To meet the needs of global aging, it is necessary to integrate *Community Medicine* and Health Center for Elderly (Puskesmas Santun Lanjut Usia), thereby creating integrated health and welfare systems as well as strengthening the ties between family and elderly by involving community participation.

Health Center for Elderly through the Integrated Care for Elderly (Posyandu Lanjut Usia) has some activities such as nutrition counseling, weight and height measurement, laboratory tests and treatment for elderly conducted by the elderly cadre in a regular basis. If necessary, the result of the examination may provide reference to hospital. However, so far the implementation of Posyandu Lanjut Usia in some health centers has not been optimal (MOH, 2002; 2006). In the implementation of Posyandu Lanjut Usia, results of health

examination are recorded in a card (Kartu Menuju Sehat, KMS) by volunteers or health workers. However, up to now there is no guideline or scoring that can help the health workers or cadres to group the elderly in accordance with their health problems. The cadres or health workers also need the guideline to perform screening and to give referral. In the effort to identify the functional status of elderly, we require parameters of geriatric syndromes and diseases in the elderly used as the basis for calculating scores in elderly groupings based on the functional status of elderly so that we can screen elderly with a suspected dependence and for advance testing in referral from Posyandu Lanjut Usia to Primary Health Center.

The purpose of this study was to develop the activity daily living concept in elderly based on geriatric syndrome, diseases and age in the context of screening and referral of elderly. The research objective could be achieved by analyzing the effect of geriatric syndrome, diseases and age on the activity daily living in elderly and by constructing a development model of activity daily living in elderly in order to conduct screening and referral for the elderly. This diagnostic model is used as a basis for early detection of high risk elderly and as a basis for referring to the primary health center.

The study design was exploratory descriptive study. The population in this study was all elderly in the region of Balongsari primary health center comprising 1783 individuals. Subjects were elderly chosen as a sample who met the inclusion criteria of age > 60 years and who were willing to participate in the study. The sample size was 200. Sampling technique was purposive sampling with the criteria of 20 elderly received home visits (palliative home care), representing dependent elderly, and 180 elderly visiting to elderly clinic representing independent elderly. The site of the study was the primary health center Balongsari, Surabaya. Research variables consisted of the dependent variable that is activity daily living in elderly (ADL) and independent variables including the disease in the elderly, geriatric syndrome and age. Diseases in the elderly include hypertension, diabetes mellitus, nutritional status based on BMI, central obesity, musculoskeletal disorders, anemia, and depression. Geriatric syndrome includes urinary incontinence, orthostatic hypotension, visual impairment, hearing loss and dementia. The study data were collected at the time when subjects came to the elderly clinic. The method used was an open and closed questionnaire instrument by the direct interview technique by a physician of Balongsari clinic; observation of clinical examination was performed by investigators; examination of ADL, AMT and GDS using scoring instrument was done by psychologists from Balongsari clinic. The data were collected from Monday to Friday for 3 months. Laboratory examination including examination of venous blood (hemoglobin levels, fasting glucose levels, blood sugar 2 hours after meal, levels of HDL cholesterol, triglycerides, and uric acid) using a spectrophotometric device performed by laboratory staff of Balongsari clinic on Saturday. For dependent elderly, data were collected by home visits.

Geriatric syndromes in elderly were visual impairment (66.5%), dementia (13%), hearing loss (12.5%), orthostatic hypotension (10.5%) and urinary incontinence (8%). Geriatric syndromes in elderly are more common in women than in men, and it increased with age. Diseases of the elderly were hypertension (73.5%), diabetes mellitus (70,5%), musculoskeletal disorders (58%), central

obesity (52%), abnormal nutritional status (BMI) (48%), metabolic syndrome (47.5%), anemia (45%) and depression (19.5%). Diseases in the elderly were also more common in women than men. There were several diseases (musculoskeletal disorders and depression) that increased with age, but there were also diseases (central obesity, nutritional disorders, metabolic syndrome and anemia) that decreased with age. Mean age of the subjects was 67.59 ± 6.986 years, and age range was 60-103 years. Cut-off median age to distinguish between independent and dependent elderly was based on the median age of 66 years. The results of multivariate analysis with logistic regression showed that geriatric syndrome, diseases, and age that significantly affected the activity daily living in elderly (ADL) were visual impairment (p = 0.024), incontinence (p = 0.000) and age (p = 0.001).

Diagnostic parameters for the identification of elderly activity daily living were age, incontinence, visual impairment, hearing loss, dementia, diabetes mellitus, hypertension, central obesity, anemia and depression. Scoring for early detection of high risk elderly using a priority issue with scoring techniques showed that the high risks were urinary incontinence, visual impairment and dementia. Moderate risks were diabetes mellitus, hypertension, central obesity and depression. Low risks were hearing loss and anemia

ABSTRACT

Background and aim : Around the world the proportion of the population of 60 years and over (elderly) grows very fast compared to other age groups. It is estimated that the growth of elderly proportion from 2000 to 2025 to be doubled across the globe. Health problems that affect elderly individuals are: cronic disease; mental disorder; geriatric syndrome; disability as measured by assessment concept of ADL (activity daily living) . The purpose of this study was to develop the activity daily living concept in elderly based on geriatric syndrome, diseases and age in the context of screening and referral of elderly.

Method : The study design was exploratory descriptive study. Subjects were elderly chosen as a sample comprising elderly visiting the elderly clinic of Balongsari primary health center and elderly receiving home visits or palliative home care. The sample size was 200. Sampling technique was purposive sampling.

Results : The results of multivariate analysis with logistic regression found that geriatric syndrome, diseases, and age that significantly affected the activity daily living in elderly (ADL) were visual impairment (p = 0.024), incontinence (p = 0.000) and age (p = 0.001).

Conclusion : Diagnostic parameters for the identification of elderly activity daily living were age, incontinence, visual impairment, hearing loss, dementia, diabetes mellitus, hypertension, central obesity, anemia and depression. Scoring for early detection of high risk elderly using a priority issue with scoring techniques showed that the high risks were urinary incontinence, visual impairment and dementia. Moderate risks were diabetes mellitus, hypertension, central obesity and depression. Low risks were hearing loss and anemia

Keywords : elderly, ADL, geriatric syndrome, diseases in the elderly

RINGKASAN

Penuaan penduduk dan urbanisasi merupakan kecenderungan global yang mewarnai abad milenium ini, Di seluruh dunia proporsi penduduk 60 tahun ke atas (lanjut usia) bertumbuh sangat cepat dibandingkan kelompok usia lainnya. Diperkirakan pertumbuhan proporsi lanjut usia dari tahun 2000 sampai 2025 menjadi dua kali lipat di seluruh dunia, dari 606 juta (10% dari total penduduk dunia) menjadi 1,2 miliar. (United Nation 2003, 2006). Perubahan struktur penduduk mempengaruhi angka beban ketergantungan penduduk tua. Hasil Susenas menunjukkan bahwa angka rasio ketergantungan penduduk tua dalam kurun waktu 2003 – 2007 mengalami kenaikan (BPS, 2007).

Negara berkembang termasuk Indonesia mengalami transisi epidemiologi dari penyakit infeksi dan kondisi akut ke penyakit degeneratif dan kronis. (WHO, 2005). Selain masalah penyakit, ada masalah khusus yang dihadapi lanjut usia yaitu perubahan normal pada fisik karena proses penuaan yang tidak dapat dihindari karena bersifat kodrati, sering disebut sebagai sindroma geriatrik (Djaelani M, 2004). Prevalensi disabilitas untuk lanjut usia yang berusia ≥ 75 tahun yaitu 17,2% dan pada lanjut usia yang berusia ≥ 85 tahun adalah 33,8% (Ming-yuan et al, 2001). Prevalensi disabilitas yang diukur berdasarkan penilaian ADL (*activity daily living*) dan IADL (*instrument activity daily living*) dan terdapat kecenderungan makin meningkat dengan meningkatnya usia (Handayani, 2006).

Perkembangan ilmu kesehatan masyarakat tentang paradigma sehat menjadi orientasi baru pembangunan kesehatan di dunia, termasuk Indonesia. Hal yang mendasar dari paradigma sehat adalah pergeseran dari pelayanan medis (*medical care*) ke pemeliharaan kesehatan (*health care*) sehingga setiap upaya penanggulangan masalah kesehatan lebih menonjolkan aspek peningkatan (*promotive*) dan pencegahan (*preventive*) dibandingkan pengobatan (*curative*) (Depkes RI, 2005). Untuk memenuhi kebutuhan kelanjutusiaan global, maka perlu mengintegrasikan *Community Medicine* (Kedokteran Komunitas) dengan Puskesmas Santun Lanjut Usia sehingga menciptakan sistem kesehatan dan kesejahteraaan yang terpadu serta dapat memperkuat hubungan lanjut usia dengan keluarganya dengan mengikutsertakan peran serta masyarakat.

Puskesmas Santun Lanjut Usia melalui pos pelayanan terpadu lanjut usia (Posyandu Lanjut Usia) mempunyai kegiatan antara lain penyuluhan gizi, penimbangan berat badan dan pengukuran tinggi badan, pemeriksaan laboratorium, dan pengobatan pada lanjut usia secara rutin, yang dilakukan oleh masyarakat dalam hal ini adalah kader lanjut usia, bila perlu merujuk ke Puskesmas ataupun Rumah Sakit. Namun sampai saat ini pelaksanaan Posyandu Lanjut Usia di beberapa Puskesmas belum optimal (Depkes RI 2002, 2006). Dalam pelaksanaan Posyandu Lanjut Usia, hasil pemeriksaan kesehatan dicatat pada Kartu Menuju Sehat (KMS) Lanjut Usia oleh kader atau petugas kesehatan. Sampai saat ini belum ada pedoman atau skoring yang digunakan untuk membedakan lanjut usia dalam pengelompokan sesuai dengan masalah kesehatan yang dihadapinya. Sehingga para kader atau petugas kesehatan belum mempunyai pedoman dalam rangka skrining dan rujukan lanjut usia.

Tujuan penelitian ini adalah mengembangkan konsep *activity daily living* pada lanjut usia berbasis sindroma geriatrik, penyakit dan umur. Tujuan

penelitian dapat dicapai dengan menganalisis pengaruh sindroma geriatrik , penyakit dan umur terhadap *activity daily living* lanjut usia dan menyusun model pengembangan konsep   *activity daily living* pada lanjut usia dalam rangka skrining dan rujukan lanjut usia. Kegunaan model tersebut sebagai dasar pengembangan kartu skor deteksi dini lanjut usia risiko tinggi terhadap penurunan *activity daily living* dan sebagai dasar rujukan ke Puskesmas.

       Desain penelitian adalah penelitian deskriptif eksploratorik. Populasi pada penelitian ini adalah semua lanjut usia yang ada di wilayah Puskesmas Balongsari sebesar 1783 orang. Subyek penelitian adalah lanjut usia yang terpilih sebagai sampel yang memenuhi kriteria inklusi umur > 60 tahun dan bersedia ikut dalam penelitian. Besar sampel adalah 200 lanjut usia. Teknik pengambilan sampel secara *purposive sampling*, dengan kriteria 20 orang lanjut usia dilakukan kunjungan rumah (*palliative home care)* mewakili lanjut usia ketergantungan, dan 180 orang lanjut usia yang datang ke poli lanjut usia mewakili lanjut usia yang mandiri. Variabel penelitian terdiri dari variabel *dependent* yaitu *activity daily living* (ADL) dan *variabel independent* meliputi sindroma geriatrik, penyakit dan umur. Sindroma geriatrik meliputi inkontinensia, hipotensi ortostatik, gangguan penglihatan, gangguan pendengaran dan demensia. Penyakit pada lanjut usia meliputi hipertensi, *diabetes mellitus*, status gizi berdasar BMI, obesitas sentral, kelainan muskuloskeletal, anemia, dan depresi. Umur lanjut usia dikelompokkan menjadi 60-69 tahun, 70-79 tahun dan 80 tahun ke atas. Tempat penelitian adalah puskesmas Balongsari, Surabaya. Pengumpulan data dilakukan pada saat subyek penelitian datang ke poli lanjut usia menggunakan instrumen kuesioner tertutup dan terbuka dengan teknik wawancara langsung oleh dokter puskesmas Balongsari; observasi pemeriksaan klinis oleh peneliti; pemeriksaan ADL, AMT dan GDS dengan menggunakan instrumen skoring oleh psikolog puskesmas Balongsari. Pengumpulan data dilakukan pada hari Senin sampai Jumat selama 3 bulan. Pemeriksaan laboratorium yang meliputi pemeriksaan darah vena (kadar Hb, kadar gula puasa, kadar gula 2 jam setelah makan, kadar HDL cholesterol, kadar trigliserida, dan kadar asam urat) menggunakan alat Spektrofotometrik dilakukan oleh petugas laboratorium puskesmas Balongsari pada hari Sabtu.

       Umur rata-rata subyek penelitian 67,59 ± 6,986 tahun, dan rentang umur antara 60 – 103 tahun. *Cut off* umur median yang dapat membedakan lanjut usia yang mandiri dan ketergantungan adalah umur 66 tahun. Sindroma geriatrik pada lanjut usia berupa gangguan penglihatan 66,5%, demensia 13%, gangguan pendengaran 12,5%, hipotensi ortostatik 10,5% dan inkontinensia 8%. Sindroma geriatrik pada lanjut usia lebih banyak terjadi pada perempuan daripada laki-laki, dan semakin banyak ditemukan pada kelompok umur yang lebih tua . Penyakit pada lanjut usia berupa hipertensi 73,5%, *diabetes mellitus* 70,5%, kelainan muskuloskeletal 58%, obesitas sentralis 52%, kelainan status gizi (IMT) 48%, sindroma metabolik 47,5%, anemia 45% dan depresi 19,5%. Hampir semua penyakit pada lanjut usia lebih banyak terjadi pada perempuan daripada laki-laki, kecuali anemia, laki laki (57,4%) lebih banyak daripada perempuan (35,4%). Kelainan muskuloskeletal dan depresi semakin banyak ditemukan pada lanjut usia dengan kelompok umur yang lebih tua. Obesitas sentralis, kelainan gizi, sindroma metabolik dan anemia semakin sedikit ditemukan pada lanjut usia dengan kelompok umur yang lebih tua.

Status fungsional lanjut usia 82,5% masih mandiri. Lanjut usia yang ketergantungan lebih banyak ditemukan pada perempuan (20,4%) daripada laki-laki (14,9%), dan semakin banyak lanjut usia yang ketergantungan pada kelompok umur yang lebih tua (10,4% ; 18,5% dan 91,7%). Pengaruh sindroma geriatrik, penyakit dan umur terhadap *activity daily living* lanjut usia dianalisis secara *multivariate* dengan regresi logistik didapatkan yang berpengaruh secara bermakna adalah gangguan penglihatan (p=0,024), inkontinensia (p=0,000) dan umur (p=0,001). Gangguan penglihatan dan inkontinensia merupakan variabel dari sindroma geriatrik.

Konsep *activity daily living* lanjut usia berbasis sindroma geriatrik, penyakit dan umur dikembangkan dalam rangka skrining dan rujukan lanjut usia. Pengembangan konsep *activity daily living* lanjut usia dengan mempertimbangkan prevalensi dan korelasi antar variabel dari sindroma geriatrik , penyakit dan umur (p<0,005). Penentuan skor dalam rangka skrining dan rujukan lanjut usia menggunakan teknik skoring prioritas masalah. Variabel yang termasuk risiko tinggi adalah inkontinensia, gangguan penglihatan, demensia dan umur. Risiko sedang adalah *diabetes mellitus*, hipertensi, obesitas sentralis dan depresi. Risiko rendah adalah gangguan pendengaran dan anemia