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Kearifan Kesehatan Lokal: indigenous medical knowledge and practice for integrated nursing of the elderly with cardiovascular disease in Sumedang, West Java: towards transcultural nursing in Indonesia
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Summary

Indonesia is a unique country with 1.340 ethnic-cultural groups spread over more than 17.000 islands. The cultural diversity is expressed in a large variety of local knowledge systems and lifestyles of the population groups. The different kinds of cultural perspectives on health and disease of the participants are related to their knowledge, beliefs, values and practices manifested in various forms of lifestyle in Indonesia. The cultural diversity of the population is also related to differences in health behaviour (*cf.* Loredan & Prosen 2013).

Nursing as a profession has to be able to encourage clients and patients, particularly with Cardiovascular Diseases (CVD) to obtain holistic nursing in an effort to meet all client needs, regardless of their ethno-cultural background and their diverse beliefs and values about health and healing (*cf.* Prosen 2003; Sharon 2008). Thus, the competence of nurses is needed to provide nursing in accordance with to the cultural background of clients and patients. Nurses must have culturally sensitive competencies as a strategy to deal with health inequalities and to improve nursing outcomes for clients and patients. (*cf.* Sharon 2008). As Prosen (2015) reveals, nurses have to be able to recognise the cultural origins of patients so that the treatment provided is culturally appropriate to their needs. Nurses' skills in assessing an integrated culture with critical thinking will increase nurses' knowledge and abilities as a basis for providing transcultural nursing services (*cf.* Andrews & Boyle 2002; Leininger & McFarland, 2002).

Every effort to improve cultural competency among nursing practitioners who fully work with diverse patients from the numerous ethno-cultural groups in Indonesia is a challenge. One important step which can be taken is to learn and understand the Sundanese people as the dominant cultural group in West Java. The Sundanese population of more than 35.5 million has recently increased significantly, making it the second-largest ethno-cultural group in Indonesia after the Javanese (*cf.* Ambaretnani 2012). The situation certainly requires a deepening of understanding of social behaviour and public health in terms of how to use traditional institutions such as *kearifan kesehatan lokal*, as well as indigenous knowledge of *jamu* and *ubar kampung* in dealing with health care of the elderly with CVD. This research develops a comprehensive understanding of how Sundanese public health practices fit into their culture.

Recent studies have elaborated the theory that the integration of IKS forms the basis for a transcultural model of utilisation of various local and global systems in different culture areas. This theory of applied ethnoscience has been introduced by Slikkerveer in his research in the Horn of Africa (1990; 1995) and has further been elaborated and adapted by several researchers, including Agung (2005) and Leurs (2010) in Bali; Djen Amar (2010), Ambaretnani (2012) and Febriyanti (2021) in Sunda; Aiglsperger (2014) in Crete; Chirangi (2013) and De Bekker (2020) in Tanzania. The transcultural utilisation model places indigenous knowledge systems central in the realisation of the process van sustainable socio-economische development, in particular in developing countries (*cf.* Slikkerveer 1990; Slikkerveer & Dechering 1995).

One of the important related issues currently in the world, including in Indonesia, is aging. The population of the elderly in Indonesia has reached 7.56% in 2012. Presently, it is estimated that in 2050, the elderly population in Indonesia will reach 28.68% (*cf.* Pusdatin 2013). According to Adioetomo & Mujahid (2014), the population is said to be an 'old population' if the proportion of the elderly population (age 60+ years) has reached 10% or more. Indonesia is one of the countries which is projected to enter the status of such 'old population' within a few generations' period of time. According to Bappenas (BPS) and UNFPA (2013), such projection will continue to increase in the 2020s along with Indonesia's Life Expectancy (UHH), which is projected to continue to increase from 69.8 in 2010 to 72.4 in 2035. This condition results in a demographic transition and epidemiological transition in Indonesia. Epidemiological transitions are complex changes in health patterns and patterns of disease-causing death. It happens along with changing lifestyles, socio-economics and increasing life expectancy, which means a higher incidence of degenerative diseases such as heart disease, diabetes mellitus, hypertension, etc.

Epidemiological transition means that there are changes in diseases which are causing death, for example from infectious diseases to non-communicable chronic diseases. The Indonesian Hospital Association (2009) mentions that about 74% of the elderly in Indonesia suffer from chronic diseases, so they need medical treatment and medicines during their lifetime. The Hospital Information System (SIRS) (2010) reports that the ten highest ranks of outpatient diseases from all outpatient diseases in the age groups of 45-64 years 65+ years were essentially diagnosed as hypertension (*cf.* Pusdatin 2013).

The results of the study indicate that the problem associated with the high prevalence of chronic diseases among the elderly is the increasing uncontrolled condition of chronic elderly diseases, in line with the results of Guessous *et al.* (2012) who show that around 50% of hypertensive patients do not take action and are not controlled. Likewise, the results of Basic Health Research (Riskesdas) (2013) show that most (63.2%) cases of hypertension in the community are undiagnosed, 42.1% of stroke cases in the community are undiagnosed, and even 88.1% of cases of rheumatism in the community are not diagnosed (*cf.* Ministry of Health 2013). Hypertension is the 'silent killer', which is one of the causes of CVD. The disease refers to the condition, which recently contributed to around 17.3 million deaths per year in the world. The highest proportion of causes of death among the elderly group is stroke and ischaemic heart disease, as a result of uncontrolled hypertension (*cf.* Pusdatin 2013; Riskesdas 2013,2018). In developing countries, from 1990-2020, the number of deaths caused by coronary heart disease is increased by 13.7% in men and 12% in women.

Based on the results of the Basic Health Research by the Ministry of Health (2013), age has shown to increase the prevalence of CVD. The highest prevalence is observed at 65-74 years (0.5%) and ≥ 75 years (1.1%). Prevalence is higher in women (0.2%) than in men (0.1%). Similarly, the results of *Riskesdas* ('Basic Health Research') (2018) show that the prevalence of hypertension as diagnosed by medical doctors' increases with age, where the percentage of women is higher than of men, and more cases of hypertension are found in urban areas than in rural areas. Simultaneously with the prevalence of CVD showing an increase with age, the prevalence of CVD is also increasing. In the 55-64 year-old age group it is 3.9%, the 65-74 age group is 4.6% and the 75+ year group is 4.7% , with a greater percentage of women, and with 1.6% in urban areas and 1.3% in rural areas.

In cases of CVD among the elderly, the relationship between aspects of culture is very strong and becomes evident in the nursing practice, which aims to provide optimal care to help patients dealing to overcome the disease. In general, however, current nursing practice as part of the national health care delivery system in Indonesia has not given sufficient attention to the role of these culturally sensitive nursing practices in the provision of overall nursing for elderly in Indonesia, causing difficulties in achieving patient satisfaction with the services provided (*cf.* Hariyati & Sahar 2012). Nursing practices for the elderly with CVD in Indonesia remain mostly focused on the modern health system, where modern medicine does not consider the cultural background of patients.

There is a cultural gap between providers and users of medical care in disease treatment, clearly manifest in nursing of the elderly with CVD. A research-based approach in integrated nursing is needed in order to reduce these limitations and lead to promoting health, improving welfare, and effective and efficient treatment. This study is focussing on the role of *kearifan kesehatan local* in the plural nursing system in Sumedang, in which traditional nursing institutions and transitional and modern nursing organisations are providing nursing to the elderly with CVD.

While the modern organisations are often identified as 'scientific' as opposed to the traditional and transitional institutions, this research follows a line of reasoning, in which the practice of all human activities, including belief and magic, established in both indigenous and modern knowledge systems are basically considered 'scientific' (*cf.* Bronowski 1967).

IKS is largely rooted in experience, which people have gained over many centuries from interactions with their natural, social and spiritual environment, and which is transferred verbally from generation to generation. In general, IKS involves mainly intangible socio-cultural characteristics, which are related to the worldview or cosmovision of different population groups. IKS is the basis for local -level decision-making in various sectors of society, including in the health sector) and has been defined as a dynamic, sustainable and adaptive system of knowledge, beliefs and

practice. In addition, IKS advocates patterns of behaviour which can be culturally adaptable to local settings and changes, and involve ways of continuous human interaction with the natural, social and spiritual environment (*cf.* Slikkerveer 1997; 1998; 1999; 2003; Warren, Slikkerveer & Brokensha 1995). The study and incorporation of indigenous knowledge into science is called '*applied ethnoscience*', because basically indigenous knowledge is rational, rooted in the process of empirical research and scientific testing in largely practical settings.. Ethnoscience uses an emic perspective relating to the behaviour of indigenous populations, which has been implemented from generation to generation and has benefited the community in several sectors, including health and healing.

The research has been conducted in the Sumedang area, West-Java, Indonesia, in four villages: Jayamekar and Cipasang representing the rural northern highland areas, and Situ representing the urban southern lowland area and Jatimulya the urban southern highland area of the Sumedang Regency, selected as representative of the characteristics of the Sundanese communities in West Java.. The sample of this study includes families with elderly members with CVD in the research area. In order to achieve the specific objective of this study, the research approach used the '*Leiden Ethnosystems Approach*' to document, study and analyse the role of indigenous nursing knowledge and institutions in the provision of cultural-specific nursing practices for elderly with CVD, intended to contribute to the development of a transcultural nursing system in Indonesia.

In practice, the '*Leiden Ethnosystems Approach*' follows three methodological principles: (1) the 'Historical Dimension' (HD); (2) the 'Participant's View' (PV); and (3) the 'Field of Ethnological Study' (FES).

As regards the research methodology in the field, the research uses a questionnaire introduced by Slikkerveer (1990) and has thereafter been successfully implemented by other researchers, including Agung 2005; Ibui 2007; Djen Amar 2010; Leurs 2010; Ambaretnani 2012; Chirangi 2013; Aiglsperger 2014; Erwina 2019; Saefullah 2019; De Bekker (2020); Febriyanti (2210) in the field of ethnoscience and indigenous knowledge.

The researcher conducted several discussions with key informants, the community leaders and participants to adapt the content of the questionnaire in accordance with the focus of the research and the situation in the field until it was ready to be distributed in this sample surveys from September to November 2017. The research instruments applied in this study have been designed with a view to collect information on the utilisation of the plural nursing system by the respondents and include data from both qualitative questions and quantitative questionnaires. The complementary approach of combined qualitative and quantitative surveys aims at confirming the findings of both surveys in terms of measuring the depth and spread of related factors and assessing the interactive processes involved in the reported differential behaviour of the community members regarding the utilisation of the plural nursing system in Sumedang. In addition, supporting background data about the Sumedang Regency have been obtained from available public information, text notes, digital sources, images, sounds or combinations, and a profile of the Sumedang Regency.

The dataset is the basis for the stepwise statistical analysis presented in this study, based on the number of households involved in the survey, in which the number (N) equals 232. The household database is the basis for the quantitative analysis of the four village communities in the research area, with regard to the respondents' experiences, knowledge, preferences and opinions related to the patterns of the utilisation of the plural nursing system: the use of indigenous nursing institutions, transitional nursing organisations and modern nursing organisations.

The analysis of collected quantitative data is based on the above-mentioned transcultural utilisation model, encompassing a bivariate analysis, a mutual correlation analysis, a multivariate analysis and a multiple regression analysis, pertaining to the patterns of utilisation behaviour of the plural nursing system by the patients with CVD of the sample surveys. The significant correlations among selected variables represent the determinants of the utilisation behaviour of the plural nursing system by the patients with CVD in Sumedang. The analytical model emphasises the interactions between the independent and intervening variables in relation with the dependent variables of utilisation, sub-divided as follows:

Independent Variables:

- socio-demographic
- psycho-social variables
- perceived morbidity variables
- enabling variables
- institutional variables
- environmental variables

Intervening Variables:

- government/public regulation variables
- government/public promotion variables

Dependent Variables:

- utilisation variables of the traditional nursing institutions
- utilisation variables of the transitional nursing organisations
- utilisation variables of the modern nursing organisations

The analysis of the quantitative surveys of the 232 households from the sample measures the degree of significance of the correlations between the independent and the intervening variables in relation to the dependent variables of reported utilisation of the plural nursing system by the selected 267 patients in the four villages. Of the 263 'action patients' in the sample, 54 took one step in their search for treatment, 209 took a second step and 114 took a third step.

The various steps taken by the 263 patients to obtain treatment resulted in a total of 586 contacts with the plural nursing system, referred to as 'utilisation scores'. The distribution of the calculated 586 utilisation scores across the plural nursing system includes more than one-fourth (26.8%, n= 157) in the traditional nursing institutions, almost one-fifth (16.9%, n= 99) in the transitional nursing organizations, and more than half (56.3%, n=330) in the modern nursing organizations.

The bivariate analysis, followed by the mutual relationship analysis, the multivariate analysis and the multiple regression analysis reflect the degree of the significant correlations between the selected variables in relation to the variables of the utilisation of the traditional nursing institutions, the transitional and the modern nursing organisations.

In this way, the results of the multivariate analysis 'OVERALS' are used to identify and explain the specific determinants of the utilisation behaviour of the respondents of the plural nursing system. The results of the significance level of the correlations between the independent, the intervening and the dependent variables are calculated in the analysis. The overview below summarises these results in terms of the degree of significance of the correlations between the independent and intervening variables in relation to the dependent variables from the model.

The level of significance is calculated using the Pearson's Chi-square (X^2) and the Cramers's Value (V.) The outcome of the calculation of the distribution of the utilisation pattern of the 586 scores of 351 patients of the plural nursing system includes respectively nearly two-thirds (59.9%, n=351) in the traditional nursing institutions, more than one-third (33.8%, n=198) in the transitional nursing organisations and less than one-tenth (6.3%, n=37) in the modern nursing organisations.

The level of significance of the correlations between the independent and intervening variables in relation to the dependent variables from the analytical model scores the highest in the socio-demographic variables of the reported utilisation behaviour of older patients with CVD, followed by specific psycho-social, institutional, environmental variables, as well as intervening variables, as summarised in the overview below.

Independent variables

Plural Nursing System Level of Significance

Block 1: Socio-demographic variables

- Household relationships
- Gender
- Age
- Marital status
- Profession
- Vaccination history
- Duration of CVD

most strongly significant correlation
most strongly significant correlation
most strongly significant correlation
most strongly significant correlation
most strongly significant correlation
most strongly significant correlation
most strongly significant correlation

Block 2: Psycho-social variables

- Knowledge of CVD
- Knowledge of traditional nursing institutions
- Knowledge of traditional nursing institutions for CVDs
- Knowledge of transitional nursing organizations
- Knowledge of transitional nursing organizations for CVD
- Belief in traditional nursing organizations for prevention of CVD
- Belief in traditional nursing organizations for treatment of CVD

most strongly significant correlation
significant correlation
strongly significant correlation
strongly significant correlation
significant correlation
strongly significant correlation
strongly significant correlation

Block 3: Perceived morbidity variables

- Perceived general state of health

very strongly significant correlation

Block 4: Socio-economic variable management

- Monthly income of the head of household
- Cost of Treatment in Transitional Nursing Organizations
- Transportation Costs for Modern Nursing Organizations
- Possession of health insurance

strongly significant correlation
strongly significant correlation
strongly significant correlation
strongly significant correlation

Block 5: Institutional variables

- Availability of transitional nursing organizations
- Geographical distance from modern nursing organizations

significant correlation
most strongly significant correlation

Block 6: Environment variables

- Location of the zone of the community

most strongly significant correlation

Intervening variables

Block 7: Intervening variables

- Influence of Public/Public Regulation on the Use of Modern Nursing Organizations
- Influence of public/public promotion on the use of home care
- Influence of public/public promotion on the use of modern nursing organisations
- Influence of public/public promotion on the use of modern nursing organizations for prevention of CVD
- Influence of public/public promotion on the use of modern nursing organizations for the treatment of CVD

strongly significant correlation
strongly significant correlation
very strongly significant correlation
strongly significant correlation
strongly significant correlation

The influence of the significant correlations of the variables indicated above in the nursing of the elderly with CVD in the local communities of Sumedang is specifically expressed in the use of *kearifan kesehatan lokal*, *jamu* and *ubar kampung*, as well as in traditional massage techniques to treat CVD. *Ubar kampung* in the Sundanese region also includes extensive indigenous knowledge of more than 45 species of Medicinal, Aromatic and Cosmetic (MAC) plants, which are collected in the vicinity of the house. The selection and preparation of medicines from the local MAC plants takes place through special preparations and practices in connection with the faith through the recitation of

mantras or prayers which are said to obtain healing. This is also important as an activity to preserve the bio-cultural diversity of the Sundanese region. In order to improve the care of elderly people with CVD, nurses must also have special competencies that are in line with the local culture and traditions of health and disease.

Based on the results of this user-oriented ethnomedical research in Sumedang, it is important that the nurses are familiar with traditional knowledge and practices of using *kearifan kesehatan lokal*, *jamu* and *ubar kampung* for prevention and treatment of CVD, and thus integrate their care for the elderly into a new system of nursing for elderly people with CVD in the Sundanese society, so that they can act not only as health educators, but also as mediators between existing nursing institutions and older people with CVD, advocates for clients and patients who need primary, secondary and tertiary nursing facilities that match their socio-cultural lifestyles and expectations for integrated care for the elderly. Such integrated strategy is then used as a model which is presented as an Integrated Nursing Institution Model. In this way, it is expected that misunderstandings due to cultural misunderstandings between patients and health professionals and between health care providers themselves will be minimised, and that the satisfaction of elder people with CVD will be increased, thereby improving their health. Hence, cultural competence is advocated in the nursing school curriculum with special attention to traditional medicine institutions so that students can apply their nursing practices in an integrated national system of transitional nursing for elder patients with CVD. In addition, the recognition and integration of traditional medical knowledge, beliefs and practices of *kearifan kesehatan lokal* in the proposed transitional nursing care for the elderly with CVD will also contribute significantly to the promotion of sustainable nursing as part of a national health care system for the entire population of Indonesia in the future.