

Cover Page



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Title: Iber Kasehatan in Sukamiskin : utilisation of the plural health information & communication system in the Sunda Region of West Java, Indonesia

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Summary

This study has been carried out in the community of Sukamiskin, a *kelurahan* ('village') in Bandung, the Capital of West Java Province, located in the Sunda Region of Indonesia. The study of the *Plural Health Information & Communication Systems (PHICS)* in Sukamiskin has taken place from 2005 until 2014. The sample population representative for the research area in this study includes 125 household heads selected in Sukamiskin, Bandung. The background of this research is formed by the concept of *health* as the basic right of every human being and which is the pillar of the strategic plan of 'Indonesia's Health 2014'.

People all over the world are making a great effort to promote and maintain their health or to prevent disease by utilising different traditional, transitional or modern medical systems or a combination for treatment, often within the available pluralistic medical configurations. The study of patterns of health care utilisation is showing the differential influence of various socio-demographic, psycho-social, socio-economic, institutional and environmental factors. The health care utilisation studies are crucial for the understanding and explanation of peoples' health and illness behaviour, which, in turn, is important for the improvement of health care services (*cf.* Slikkerveer 1990; 1995). Parallel to the historical development of the different medical systems, also the related health and communication systems among the people have been extended with new information, knowledge, and experience, which have similarly led to the development of different *Traditional and Modern Health Information & Communication Systems (T&MHICS)*.

Since the utilisation of these different information systems show a resemblance with the utilisation of the various medical systems, and further understanding is important for the improvement of these systems, this research investigates how different independent and intervening factors influence the dependent factors of the utilisation of the two existing forms of the *Traditional Health Information & Communication Systems (THICS)* and the *Modern Health Information and Communication System (MHICS)* in the pluralistic situation in Sukamiskin.

The general aim of this research can be summarised as to document, study and analyse the utilisation of the *Plural Health Information & Communication System (PHICS)* by the local population of Sukamiskin in the Sunda Region of West Java through the identification, documentation, and analysis of significant factors influencing the related utilisation patterns, differentiated within, on the one hand, the *Traditional Health Information & Communication System (THICS)* and, on the other hand, the *Modern Health Information & Communication System (MHICS)* at the community level.

In addition, the implications of the research findings are used as a basis for the development of an empirical model of integration of the *Traditional Health Information & Communication Systems (THICS)* and the *Modern Health Information & Communication System (MHICS)* to serve as a planning tool for realising the 'Information Society Indonesia' (2003) within the context of health in the near future.

In order to realise this general aim, a subdivision is made in a number of specific objectives to be achieved which can be summarised as follows:

Firstly, the theoretical orientation of the new field of *Health Information & Communication (HIC)* is presented in Chapter II, placing special emphasis on *Plural Health Information & Communication Systems (PHICS)*, including a description of the impact of globalisation on this system in Indonesia. In this way, Chapter II provides such theoretical framework which encompasses the introduction of the concept of health information which seeks to shed light on the conceptualisations of health and health information, health information needs and management and the media involved in health information.

On the basis of these conceptualisations, the chapter subsequently highlights the approaches towards health information literacy and health education. Following an initial outline of principles, the focus shifts to the various concepts of health information and communication, the models of health communication, the interrelationship between health communication and health promotion, the media and the relations between traditional and modern health information and communication, and their relevance to public health

The operationalisation of the definition of Gann (1986: 13) who states that: '*Every individual is responsible to his/her own health; for looking out on signs of ill health, carrying out basic self-care measures on behalf of herself or himself or his (or more likely her) family, deciding when to consult the doctor, coping with long term chronic illness or disability, and making adjustments in lifestyle to improve health*' has proved to be rather useful in the theoretical framework of this research. In addition, the multiple discourse approach to health communication in three spheres of influence, *i.e.* the societal discourse, expert discourse, and lay discourse, introduced by Parrott (2004), has provided the basis of this study to focus mainly on the domain of the lay discourse concerning the health information and communication among local participants in terms of the understanding and utilisation of indigenous knowledge sources and experiential information regarding health and disease at the community level, derived from cultural, social, and individual experience which guides and adapts the community health and illness behaviour of the local people.

Finally, the chapter concludes with highlighting a new approach towards the formal integration of various forms of *Health Information & Communication (HIC)*, thereby specifying the development of communication and the integration of *Traditional and Modern Health Information & Communication Systems (T&MHICS)* into *Integrated Health Information & Communication Systems (IHICS)*. The theories and ideas described in this chapter has provided a comprehensive framework for the subsequent execution of the research which has been conducted on the *Plural Health Information & Communication System (PHICS)* in the community of Sukamiskin in the Sunda region of West Java, Indonesia.

Secondly, the selected ethnoscience research methodology and the related appropriate analytical model and its components for the execution of the stepwise Bivariate, Mutual Relations, Multivariate and Multiple Regression Analysis of the collected quantitative data are described in Chapter III. As such, the chapter presents an overview of the research methods and techniques selected for the study area of Sukamiskin in order to document, study and analyse the utilisation of the *Plural Health Information & Communication System (PHICS)* by the local population of Sukamiskin in the Sunda Region of West Java through the identification, documentation, and analysis of significant factors influencing the related utilisation patterns, differentiated within, on the one hand, the *Traditional Health Information & Communication System (THICS)* and, on the other hand, the *Modern Health Information & Communication System (MHICS)* at the community level. The 'Leiden Ethnosystems Approach' is described as an approach developed by Slikkerveer (1990; 2006), representing a specific ethnoscience method to analyse local knowledge systems within a particular culture area. The 'Leiden Ethnosystems Approach' is built up of three methodological principles: the *Historical Dimension (HD)*, the *Participant's View (PV)* and the *Field of Ethnological Study (FES)*. In addition to the operationalisation of the specific research approach, the chapter also provides an outline of the complementary qualitative and quantitative research components which have been studied in the 14 *rukun warga (RW)* ('hamlets') in Sukamiskin, Bandung.

The description of the qualitative research which involves observations and in-depth interviews with key-informants, is followed by a description of the design of the structured questionnaire used to conduct the quantitative surveys in the 83 samples of the *rukun tetangga* (RT) ('neighbourhoods') in the study area.

Additional information on the local population has been obtained from the list of residents available in the villages from which the household samples have been selected randomly in accordance with the location of the neighbourhoods in order to cover every *rukun warga* and *rukun tetangga*. Subsequently, the process is described of the distribution of the structured questionnaire among the selected samples and completed on the basis of the selected respondents of the sample under the guidance of the researcher and her team.

Furthermore, Chapter III offers a detailed description of the factors and blocks – and their operationalisation - of the conceptual model developed by Slikkerveer (1995; 2003) which has been selected for this research, providing the basis of the empirical multivariate model of utilisation behaviour based on the findings of the research. Chapter III concludes with a description of the specific processes of subsequent statistical analysis of data collected during the quantitative household surveys including the Non-Linear Canonical Correlation Analysis using the technique of OVERALS, whereby data are entered into the *Statistical Package for the Social Sciences* (SPSS), Versions 11.5, 17.0 and eventually Version 20.

Thirdly, the overview of the research setting of the study is presented in Chapter IV, encompassing a synopsis of the Culture Area of the Republic of Indonesia, followed by the Province of West Java. It includes a presentation of the characteristics of government and political organisations as well as Indonesia's administration which has recently been reduced from 27 to 34 provinces. Similarly, a description is provided of the geography and socio-demography of the Sunda Region, focused on the Province of West Java. It is shown that Indonesia is not only traversed by various international channels of transportation, running from west to east and *vice versa*, but it is also involved in many international commercial contacts pertaining to the acceleration of economic growth and the establishment of many multinational corporations. Indonesia's large population and the densely populated regions account for the present number of 263.991.379 in habitants. Distinguished as the fourth most populous country worldwide, however, the population shows a decline in annual growth from 2.7% in 1968 to 1.1% in 2017 (*cf.* United Nations 2017). Although Indonesia has the largest Muslim population in the world, it is not an Islamic state.

In addition, the research area of the community of Sukamiskin is described. Because of its abundant natural resources and fertile areas, West Java, the fifth largest province of Indonesia is dominated by the agricultural sector. The *kelurahan* ('community') of Sukamiskin is located within the administrative boundaries of the urban area of Bandung, the Capital of the Province of West Java.

In this chapter, also an overview is presented of the administration of the area at the various levels, ranging from the Governor of the Province through the Regent, who is assisted by a Vice-Regent, and the Mayor, who governs the city. Each *kabupaten* ('regency') and *kota* ('city') in Indonesia are subdivided into *kecamatan* ('districts'). The position of the *camat* ('head of the district') is described as heading the regional office in the territorial district which is sub-divided into *desa*, *kelurahan*, *kampung* or *nagari* ('administrative villages'). The lowest level of governance within the Regency is maintained by the *kepala desa* ('head of the village') and the *lurah* ('head') of the *kelurahan* ('urban village').

Fourthly, the description of the daily life in Sukamiskin is presented in Chapter V. It describes the data both available in existing resources and collected among the people of the research population, *i.e.* the residents of the community of Sukamiskin and the sample population comprised of the selected household heads. It shows that Sukamiskin is characterised as a community in the Arcamanik District, located in the eastern part of the city of Bandung and comprising four villages, namely Cisaranten Kulon, Cisaranten Bina Harapan, Sukamiskin and Cisaranten Endah. It is documented that in 2013, due to the population growth the number of neighbourhood has increased with five neighbourhoods amounting a total from 83 to 88 neighbourhoods in 2013.

The chapter concludes with an outline of the plural medical system available in the research area which comprises a traditional, a transitional and a modern medical system, which as such is related to the different systems of health information and communication in the area. The present health care practitioners are described as the *bidan* ('midwives'), *dukun* ('traditional healers') acupuncturists, acupressurists, masseurs and *ajengan* ('religious healers'), doctors, obstetricians, paediatricians, and dentists. Several methods of treatment are also documented as performed by members of the community of Sukamiskin themselves in the form of traditional home remedies. The traditional treatment by the Islamic community of Sukamiskin is largely performed by the use of *bekam*, *rukiyah* ('holy water') and prayers. Other traditional treatments are acupressure, acupuncture and bone setting. The structure of modern health care and related facilities available in Sukamiskin are described in terms of the hospitals, *BKIA* ('maternal hospitals'), *Pusat Kesehatan Masyarakat (Puskesmas)* ('Community Health Centre'), clinics, *Pos Pelayanan Terpadu (Posyandu)* ('Integrated Health Post'), pharmacies, traditional remedy stores and *jamu* kiosks.

Fifthly, the *Traditional Health Information & Communication System (THICS)* in the community of Sukamiskin is described in Chapter VI against the background of the belief systems, health concepts, information and communication systems, health policies and strategies and the recent impact of autonomy and technology on information and communication. The *Traditional Health Information & Communication System (THICS)* in the research areas is built on the prevailing Sundanese norms and values. The discussion about the Sundanese culture begins with the belief system of the Sundanese cosmology and the traditional way of life. The *orang sunda* ('Sundanese people') have over many generations accustomed their life to live in harmony with nature as their major philosophy, considering it a central part of the universe. This concept forms the basis of the local Sundanese worldview of *tri tangtu*, which involves a vertical and a horizontal communication order, expressed in the local language as: '*hirup nu hurip, hirup kudu nyontoan jeung picontoeun dan hirup kudu neundeun jeung ninggalkeun*'.

Furthermore, the traditional communication in Sukamiskin can be classified into several types, namely interpersonal communication, small group communication, and public use of direct and indirect ways of communication. Direct interpersonal communication is documented as performed by conversation orally or by gesture. Furthermore, interpersonal communication occurs between parents and children, parents with parents, and husband and wife. A more distant than usual communication is carried out between grandmothers and grandparents to their grandchildren, and also between them and their neighbours. Moreover, the use of non-verbal communication is described as more dominant in the Sundanese community which is expressed in the Sundanese concept called *PANCACURIGA*.

Sixthly, the documentation of the indigenous knowledge and the indigenous classification of Medicinal, Aromatic and Cosmetic (MAC) plants used for *lalab* and *ubar kampung* by the people of Sukamiskin is also presented in Chapter VI. A number of elements in the traditional health care system arerooted in the Sundanese culture which are noticeable in the field of Medicinal, Aromatic and Cosmetic (MAC) plants and related local herbal dietary ingredients. Specifically collected information of indigenous medicinal plants is documented in a list representing the local classification of these medicinal plants of which certain parts are used as components of *ubar kampung* ('traditional medicine') in the research area. In addition, a selection of photographs of these indigenous medicinal plants is presented in Illustration 6.3 of Chapter VI.

It is shown that the centuries-old use of these MAC plants for medicine in Sukamiskin has also contributed to the government programme launched in 1983, as part of the *Pemberdayaan Kelompok Keluarga* (PKK) ('Empowerment of Family Welfare Movement'), known as *Tanaman Obat Keluarga* (TOGA)', ('Family Garden with Medicinal Plants'), later documented by Slikkerveer & Slikkerveer (1995).

Additionally, the *pamali* ('prohibition') is described as one of the Sundanese's traditional communication forms which obligesthe people not to violate the community prohibitions. In the Indonesian language, *pamali* is also called taboo and is a cultural norm which does not allow people to do, use or talk about a particular subject if people experience it as offensive. In the health sector, *pamali* in the Sundanese communities is found quite effective in the preventive efforts against various diseases, and is also easily understood by the public since it uses the local language. Through a simple sentence of *pamali*, the society may become aware of the importance of health. In this context, the local peoples' efforts to cure an illness in accordance with the teaching of Islam is presented, while also other types of therapies available outside the area of Sukamiskin are also described such as the use of bee stings, white rice grains, leeches and acupuncture.

Seventhly, the *Modern Health Information & Communication System* (MHICS) in the community of Sukamiskin is described in Chapter VII, starting with a description of the related modern health facilities available in Sukamiskin: *Pusat Kesehatan Masyarakat* (*Puskesmas*) ('Community Health Centre'), *Pos Pelayanan Terpadu* (*Posyandu*) ('Integrated Health Post'), clinics, pharmacies and drugstores. Thereafter the dissemination of health information is explained through the utilisation of the printed media (newspapers, magazines, tabloids, books kept in libraries), the public media (posters, fliers etc.), the electronic media (television, radio) and the digital media (e-book, e-news, e-TV etc.), including the social media. Also, attention is paid to the role of health information technology programmes in Bandung, ranging from the Smart City to the Bandung Health Card. In addition, the availability of information institutions disseminating modern health information is described, including the Bandung TV (Television), Community Library or Community Reading Corner (TBM), Community Radio, and newspapers and magazines kiosks.

In addition, the role of schools, boarding schools, sport centres, health centres, *Pos Pelayanan Terpadu* (*Posyandu*) ('Integrated Health Post'), *polindes*, the *Pendidikan Anak Usia Dini* (PAUD) ('Pre-School'), the *Pemberdayaan Kelompok Keluarga* (PKK) ('Empowerment of Family Welfare Movement'), Village Pharmacies, and other institutions are also documented as to convey health information and educate about public health to the members of the community. Related forms of Health Education are performed in several activities involving health education programmes in its role to stimulate preventive and promotional efforts which involve both personnel and institutions active in health information and communication in the research area.

Finally, new channels of modern health information and communication are indicated, in which the progress of digitisation in radio, tv, newspapers and the internet in Indonesia is playing an increasingly important role.

Eightly, the results of the stepwise bivariate, mutual relations, multivariate and multiple regression analyses of the quantitative data from the household surveys are presented in Chapter VIII. The results are showing and explaining the differential relationship of significant independent and intervening factors in relation to the local peoples' reported utilisation of the *Plural Health Information & Communications System (PHICS)* in Sukamiskin, sub-divided in, on the one hand the *Traditional Health Information & Communications System (THICS)*, and on the other hand the *Modern Health Information & Communications System (MHICS)* in the research area.

The implementation of the model developed by Slikkerveer (1990; 1995) shows clearly the results about the various levels of significance – or no significance – of the correlations between the independent and intervening variables in relation to the dependent variables.

In summary, the conclusion of these results in terms of revealed correlations in the Bivariate Analysis is well illustrated by the Mutual Relations Analysis as follows: the dominating influence of the block of the psycho-social variables (8) is shown on the dependent variables, followed by the block of the intervening variables (6), while the other blocks of respectively socio-demographic variables (2), enabling variables (2), perceived information variables (2) and institutional variables are showing significance in equal numbers of 2 variables per block.

The results of the following Canonical Correlation Analysis underscore that the predisposing psycho-socio variables contribute most to the dependent variables. The intervening variables consisting of 'Exposure to Electronic Media', 'Exposure to Printed Media' and 'Awareness of Epidemics' indicate also a rather strong influence on the dependent variables of utilisation of both the *Traditional and Modern Health Information & Communication Systems (HICS)*. The intervening variables consisting of 'Exposure to Electronic Media', 'Exposure to Printed Media' and 'Awareness of Epidemics' which are show also a rather strong influence on the dependent variables of utilisation of both the *Traditional Health Information & Communication System (THICS)* and the *Modern Health Information & Communication System (MHICS)*. Also, the multivariate analysis further underscores the strongly significant correlation between the intervening variables and the utilisation variables of both the *Traditional and Modern Health Information & Communication Systems (T&MHICS)*, compared to the other variables. Likewise, 'Exposure to electronic media', 'Exposure to printed media', and 'Awareness of Epidemics' are showing a further substantiation of the very strongly and most strongly significant correlations.

The Multiple Regression Analysis which implements the OVERALS technique, shows not only the correlation between variables, but also the correlation between the different blocks of variables identified in the model, *i.e.* the interaction between the blocks of independent, intervening and the dependent variables. These calculated correlations show the relative value of interaction between the blocks and hereby highlights the validity of the multivariate model.

Finally, the last part of Chapter VIII, *i.e.* Paragraph 8.6 provides a more detailed interpretation of the above mentioned summary of conclusions of the results of the stepwise analyses, providing an explanation of the various levels of significance among the independent, intervening and dependent variables in the model which can be regarded as determinants of the utilisation of the *Traditional Health Information & Communication System (THICS)* and the *Modern Health Information & Communication System (MHICS)* in the community of Sukamiskin

The conclusion indicates that the subsequent steps in the analysis all confirm that the established distribution over the utilisation patterns justifies the overall interpretation that, on the one hand there is net 63.2% calculated, that is more than three-fifths under-utilisation of the *Traditional health Information & Communication System (THICS)* as reported by respondents in the research area, while on the other hand, that there is net 58.4% calculated, that is more than half under-utilisation of the *Modern health Information & Communication System (MHICS)* as reported by respondents in the research area.

Ninthly, following the conclusions, the theoretical and practical implications of the study are presented in Chapter IX. The theoretical implications are, that most research in this field is being conducted within the context of the providers of health information through *Modern Health Information & Communication Systems (MHICS)*, in which the recent electronic developments of the media and the internet are dominating, while less attention is being paid to the situation and perspectives of the consumers of health information through traditional health information, particularly with regard to the local people and their utilisation of their *Traditional Health Information & Communication Systems (THICS)* functional at the community level.

Furthermore, this study has also shown that the 'bottom-up' approach has direct relevance for health education as an instrument to inform and communicate with local people on changes in their behaviour for health improvement. The implementation of the distinction between the *Traditional Health Information & Communication System (THICS)* and the *Modern Health Information & Communication System (MHICS)* further implies the support for the comparative approach needed for the development of ethno-communication as a discipline which is based on a culturally-relativistic orientation, *i.e.* treating each culture or sub-culture on the basis of its own system of values, norms and traditions.

The study of *Iber Kesehatan* from such an ethno-communication perspective on *Health Information & Communication Systems (HICS)* in Sukamiskin also implies improved understanding and explanation of various factors related to health promotion, disease prevention and treatment at the community level. Such body of knowledge of the participants refers to the concept of health information literacy comprising the individual ability to meet the need of health information, determine the source of information, and understand the indigenous medical knowledge and practice. The study in Sukamiskin also found that among the independent variables, the perceived need of health information factors and institutional factors of reading corners, the *Pemberdayan Kelompok Keluarga (PKK)* ('Empowerment of Family Welfare Movement'), and mosques constitute variables which affect the utilisation of the Plural Health Information & Communication System (PHICS).

In addition to the theoretical implications, also a few methodological implications of the study in Sukamiskin deserve special attention. The first methodological selection of the ethno-science methodology, developed in the 'Leiden Ethnosystems Approach' has shown its efficacy and functionality of understanding and explaining relevant local phenomena, which implies the indispensable implementation of this approach in similar studies on indigenous peoples' knowledge, belief and practice as in this case in health information and communication at the community level. Furthermore, the functionality of the conceptual model of transcultural utilisation behaviour of respondents – developed by Slikkerveer (1990; 1995) selected for the study and analysis in Sukamiskin has shown impressive achievements in terms of the reliable measurement of the spread of relevant factors and variables which are showing various levels of significance in the subsequent stepwise analyses of collected data from the household surveys.

The practical implications of the study concern both the *Traditional Health Information & Communication System (THICS)* and the *Modern Health Information & Communication System (MHICS)* in Sukamiskin indicate that special attention should be given to the provision of practical information about the prevention and dangers of local diseases and healthy lifestyles through the traditional information systems.

As regards the *Modern Health Information & Communication System (MHICS)*, the practical implication of the study is that an answer should be developed to the specific need among the respondents that the Ministry of Education and Culture of Indonesia should also be actually involved in the development and management of local libraries in the field of health and disease as an extension of the related government health programmes.

In addition, the use of *Information & Communication Technology (ICT)* in the available *Plural Health Information & Communication System (PHICS)* has also been found as a practical means for the respondents to gain a proper understanding of various issues of health and disease in the community. Also since the provision of health information on the Internet and through the *Sistem Penilaian Informasi Kesehatan Online (SPIKO)* ('Online Health Information Searching System') has recently expanded, they also have to become practical tools in health information literacy activities in order to select and monitor the accuracy of the various forms of health information.

Since the study ample shows that the indigenous medical knowledge and practice reflect the rich heritage of the Sundanese people, the practical implication of the study is also to further study, document and operationalise these indigenous knowledge systems with a view to integrate them into sustainable knowledge systems in the near future. The overall implications, however, embark on the research findings that in a relative perspective, both the *Traditional Health Information & Communication System (THICS)* and the *Modern Health Information & Communication System (MHICS)* seem to be largely utilised below the medium available level, which implies the need of a concerted effort from all stakeholders concerned to render both systems more accessible and relevant to the provision of adequate information and communication on health and disease as a means to improve the health and well-being of the population.

Finally, special attention is paid to the development of a strategic model of an *Integrated Health Information & Communication System (IHICS)* as a planning tool in order to provide a contribution to the improvement of the local people's level of health literacy, and as such to the 'Information Society Indonesia' within the context of public health development in the near future. Figure 9.1 shows a schematic representation of the proposed *Model of an Integrated Health Information & Communication Systems (IHICS)* against the background of the three domains of respectively the societal discourse, the lay discourse and the expert discourse, operational in the research area of Sukamiskin. The input from these three domains *into the new model is reflected in the three arrows in the model, each of which is directed to the Model of an Integrated Health Information & Communication Systems (IHICS)*, represented by the two overlapping circles in the middle.

In this model, a dynamic integrated and multidimensional approach is represented towards the interactive development of the societal, lay and expert discourses with a view to design and implement a hybrid system of traditional and modern health information and communication pertaining to the improvement of the health literacy level of the local population. Eventually, the ethnoscience study, particularly the ethno-communication study in Sukamiskin has paved the way for the merger of both systems into one hybrid system which links up very well with the Sundanese culture of the local people.

It is hoped that the above mentioned strategic model of an *Integrated Health Information & Communication System (IHICS)* indeed as a planning tool will be developed with a view to provide a contribution to the improvement of the local people's level of 'health literacy', and as such to the 'Information Society Indonesia' (2003) within the context of public health development in the near future.

In conclusion, this study hopes to attribute a new significant meaning to the concept of *Iber Kasehatan* as a construct of an *Integrated Health Information & communication Model (IHICM)* in order to provide a contribution to the health of the local population of Sukamiskin in Bandung, as well as in other regions in Indonesia and the rest of the world.