A QUANTITATIVE AND QUALITATIVE ANALYSIS OF NURSES' LIFESTYLES AND COMMUNITY HEALTH PRACTICE IN DENPASAR, BALI

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THIS THESIS IS PRESENTED FOR THE DEGREE OF
MASTER OF NURSING SCIENCE
THE UNIVERSITY OF ADELAIDE
SCHOOL OF NURSING
2013

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Acknowledgement

First, I would like to thank my husband and my parent for their constant support, encouragement and understanding throughout my journey to pursue my degree.

To my supervisor, Frank Donnelly, thank you for all of your support, patience and guidance. You 'convinced' me to challenge myself experiencing another way of doing a research. It does change my perspective and teach me on how to view a phenomenon from both objective and subjective viewpoints.

I would like to acknowledge all of the *Puskesmas* nurses across Denpasar area for their genuine enthusiasm and collaboration to be involved in this project.

Last but not the least, I would like to express my gratitude to all my friends, families and colleagues in Adelaide and back home in Indonesia. This project would not have been possible without your support and help.

List of Abbreviations

ANOVA	Analysis of Variance
BMI	Body Mass Index
CINAHL	Cumulative Index to Nursing and Allied Health Literature
HP	Health Promotion
HPL	Health-promoting Lifestyle
HPLP	Health-promoting Lifestyle Profile
HR	Health Responsibility
HREC	Human Research Ethics Committee
HSD	Honestly Significant Different
IR	Interpersonal Relation
MM	Mixed-methods
NCD	Non-communicable Diseases
Nu	Nutrition
PA	Physical Activity
PCNA	Preventive Cardiovascular Nurses Association
SG	Spiritual Growth
SM	Stress Management
SPSS	Statistical Package for Social Science
UofA	University of Adelaide
WHO	World Health Organization

Abstract

Background
Health promotion (HP) provision is regarded as an integral component of the health professional's role, particularly for nurses working in a primary healthcare (PHC) context. In Indonesia, community health centres called *Puskesmas* serve as the main functional healthcare organisation unit. In all *Puskesmas*, nurses are considered to have a pivotal role in maximising the health of the general population, having sufficient knowledge, skills, positive attitudes and behaviours towards health-promoting lifestyles (HPLs).

Purpose
The purposes of this study were:

- to describe the personal health-promoting lifestyles among nurses working across all *Puskesmas* in the Denpasar area, Bali, Indonesia
- to determine any significant differences between selected socio-demographic variables and the health-promoting lifestyles of nurses working in *Puskesmas*
- to obtain an understanding of how nurses view, experience and integrate their personal and professional health promotion practice.

Methods
This study employed a parallel mixed-methods design using self-administered questionnaires and telephone interviews. The questionnaire was adapted from an existing instrument (Health-Promoting Lifestyle Profile II/HPLP-II), while the semi-structured telephone interview was guided by a list of questions developed through reviewing the literature pertinent to the chosen topic. Quantitative data were analysed using SPSS version 20 for Windows, while qualitative data from eight telephone interviews were subject to in-depth thematic analysis. To generate final conclusions, inferences from each strand were linked, combined and integrated.

Results
It was found that based on particular socio-demographic characteristics of the participants, the means of several HPLP-II subscales were significantly different, namely, in spiritual growth (working experience, employment status, income, general health status), nutrition (employment status, income), stress management (income), and in total scale, health responsibility and interpersonal relations (general health status). Six key themes were yielded from the thematic analysis and included how the nurses view, experience and integrate their personal and professional HP practice.

Conclusions
Three major conclusions can be drawn from this study. First, the *Puskesmas* nurses showed sufficiently positive HPL patterns, except in the physical activity domain. Second, there were significant differences found in several HPLP-II subscales based on the participants' particular socio-demographic characteristics. Finally, by integrating, combining or linking findings from the quantitative and qualitative strands, it can be concluded that there is a connection between the *Puskesmas* nurses' personal and professional HP practice. More precisely, it was characterised by the notion of being imperfect role models and a blurred boundary between the nurses' personal and professional identity.

Chapter One—Introduction

Introduction

This thesis is the result of an investigation of Indonesian nurses' lifestyles and community health practices. The study examines the health promotion (HP) practices of nurses working in primary healthcare (PHC) contexts by assessing their health-promoting lifestyle (HPL) patterns. At the same time, an understanding of how the nurses view, experience and integrate their personal and professional HP practice is obtained. This chapter serves as an introduction to the area under investigation, and provides the research purposes and questions, the significance of the study, the assumptions and definition of terms used in this study, as well as an outline of the thesis's contents.

Context of the Study

The Ottawa Charter defines HP as '…the process of enabling people to increase control over, and to improve, their health' (World Health Organisation 2009). Health promotion provision is regarded as an integral component of the health professional's role, particularly for nurses working in a PHC context. Nurses are appropriately positioned to promote healthy lifestyles (Kemppainen, Tossavainen & Turunen 2012), as nurses interact with many people at key points in their lives (Kelley & Abraham 2007). Nurses are generally considered to have sufficient knowledge, skills, positive attitudes and behaviours towards HPLs. Indeed, nurses are often regarded as role models by their clients and the wider community in many ways, but in particular, in the aspect of living a healthy lifestyle.

Unfortunately, a number of studies reveal that nurses are not immune from risks in adopting unhealthy lifestyles in their own lives (Allison 2005; Bourne et al. 2010; Edwards et al. 2008; Malik, Blake & Batt 2011; Miller, Alpert & Cross 2008; Smith & Leggat 2007; Tucker et al. 2010; Zapka et al. 2009). A number of studies with

considerable heterogeneity in respect to their approaches have been conducted to demonstrate an empirical link between nurses' HPLs and their tendency to raise health-promoting behaviour issues with their clients. The findings suggest that nurses who were aware of healthy lifestyles and who followed the recommendations for practising healthy behaviours were more effective in performing their role as health promoters (Esposito & Fitzpatrick 2011; Fair, Gulanick & Braun 2009; Zhu, Norman & While 2011). Conversely, failure to adopt healthy lifestyles into nurses' personal lives was found to influence their abilities to promote healthy lifestyles to their clients (Radsma & Bottorff 2009), which may eventually deteriorate the provision and quality of care being provided, as reflected in poor patient care outcomes (Callaghan 1999; Callaghan, Ma & Fung 1997; Connolly et al. 1997; McDowell, McKenna & Naylor 1997; McHugh et al. 2011). For instance, in a systematic review to identify the relationship between doctors' and nurses' own weight status and their weight management practices, it was concluded that:

> normal weight doctors and nurses were more likely than those who were overweight to use strategies to prevent obesity in patients, and, also, provide overweight or obese patients with general advice to achieve weight loss (Zhu, Norman & While 2011, p. 459).

In Indonesia, the implementation of HP is highly influenced by the government, following a major shift in 2001 from a centralised to a decentralised governmental system (WHO Regional Office for South-East Asia 2007; World Health Organisation Country Office for Indonesia 2012). The decentralisation policy outlines that regional development has to be performed at a district or municipality level (Rokx et al. 2009). In the healthcare domain particularly, this policy has seen the community health centre, the *Puskesmas*, become the main functional healthcare organisation unit of the District/Municipality Health Office, essentially the backbone of the PHC system in Indonesia (WHO Regional Office for South-East Asia 2007; World Health Organisation Country Office for Indonesia 2012). A *Puskesmas*, located at every sub-district, is mainly assigned to provide HP and disease prevention activities supported by basic curative healthcare services (Ministry of Health Republic of Indonesia 2004).

In all *Puskesmas* throughout Indonesia, nurses are considered the most significant healthcare workforce compared with other health practitioner groups (Heywood &

Harahap 2009; Ministry of Health Republic of Indonesia 2007). In 2010, the number of nurses who served in all *Puskesmas* in Indonesia were 78,215 personnel (eight to nine nurses per health centre) compared with only 14,934 physicians working in the same setting (with a ratio of 1.66 physicians per *Puskesmas*) (Ministry of Health Republic of Indonesia 2011). Therefore, nurses have a pivotal and influential role to maximise the health of the general population.

Through a 'health-promoting *Puskesmas'* policy, where the *Puskesmas* is regarded as the centre of the HP initiative, the government has delineated the role of health practitioners working in *Puskesmas*, including nurses, to promote HPLs to their clients and simultaneously integrate healthy lifestyles into their own lives (Ministry of Health Republic of Indonesia 2007). Unfortunately, despite the fact that HP has been considered the central tenet of routine nursing practice in Indonesia, there has been very little attention given to understanding how the nurses experience and integrate their personal and professional HP practice; thus warranting further exploration.

Purpose of the Study

Nurses working in a PHC context in Indonesia may contribute to the general population's health status, yet existing literature has demonstrated the dearth of relevant evidence regarding this phenomenon. The purposes of this study were:

- to describe the personal health-promoting lifestyles among nurses working in community health centres (*Puskesmas*)
- to determine any significant differences between selected socio-demographic variables and the health-promoting lifestyles of nurses working in *Puskesmas*
- to obtain an understanding of how nurses view, experience and integrate their personal and professional health promotion practice.

Statement of Research Question/Problem

- What patterns of health-promoting lifestyles are present in nurses working in *Puskesmas*?

- Are there any significant differences in health-promoting lifestyles of nurses working in *Puskesmas* according to their socio-demographic variables?
- How do nurses perceive their personal health-promoting lifestyles and their role in providing health promotion to clients?

Significance of Study

The results of this study have provided information on nurses' health behaviour and HP practice from an Indonesian standpoint and confirm similar studies conducted predominantly in developed countries. Findings from this study may promote the enhancement of the nursing workforce and practice in the HP domain by highlighting the need to develop a HP programme to address specific groups, such as nurses working in community health centres. Nursing education may also benefit from the study because the outcomes may provide valuable information grounded from the field on how to best structure the current education system for preparing and fostering students' capacity to undertake their future HP roles. This is relevant, given the international commitment and the Indonesian government's emphasis on the important role of PHC to safeguard the health of the general population. As nurses are considered the frontline workforce of PHC in Indonesia, nurses working in *Puskesmas* may affect a significant percentage of clients with their effective HP activities, ultimately leading to a more efficient and cost-effective healthcare provision.

Assumptions

The following assumptions were made in relation to the study:

- Rather than drawing a direct relationship between the nurses' personal HPLs and their capacity to promote healthy behaviours to their clients that is assumed to be influenced by many factors, this study was conducted to better understand the nurses' HPL patterns and how they view, experience and integrate their personal and professional HP practice.
- The implementation of current policies in Indonesia's healthcare system, including the decentralisation system and the health-promoting *Puskesmas*

policy, has put greater emphasis on the HP role and practice of nurses working in *Puskesmas*.

- All respondents have answered all survey questions honestly and to the best of their abilities.

Definitions of Terms

Health

Health is '...a state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity' (World Health Organisation 1948, p. 100).

Health Promotion

The Ottawa Charter defines HP as '…the process of enabling people to increase control over, and to improve, their health' (World Health Organisation 1986; 2009, p. 1).

Lifestyle

Lifestyle is defined as '…discretionary activities that are a regular part of one's daily pattern of living and significantly influence health status' (Pender, Murdaugh & Parsons 2006, p. 108).

Health-promoting Lifestyles

A HPL or behaviour is defined as '…an expression of the human actualizing tendency directed towards optimal well-being, personal fulfilment, and productive living' (Pender, Murdaugh & Parsons 2006, p. 108). It is a personal action to sustain or increase their wellness (Moorhead 2008).

Primary Healthcare

Primary healthcare (PHC) is '…essential healthcare based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost

that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination' (World Health Organisation 1978).

Puskesmas

Puskesmas is a community health centre located at every sub-district in Indonesia, which has been placed as the main functional healthcare organisation unit and as the backbone of the PHC system in Indonesia (WHO Regional Office for South-East Asia 2007; World Health Organisation Country Office for Indonesia 2012).

Outline of the Thesis

The thesis is organised into five chapters, namely:

Chapter One

The first chapter of this report introduced the study by specifying the research context, outlining the research propositions and questions. It also identified the significance of the study, and assumptions and definitions of the relevant terms.

Chapter Two

Chapter Two will present a literature review. It serves to identify the relevant existing knowledge and justify the rationale for conducting the project. The literature review provides an opportunity to highlight gaps in the currently available evidence pertinent to the topic. It will also describe the process undertaken to obtain the literature, including the sources and keywords being used.

Chapter Three

The third chapter will describe methods undertaken to carry out this study. This section consists of descriptions of the chosen study design, sampling and recruitment

procedures, data collection processes, strategies to maintain the study's validity and reliability, ethical considerations, and data analysis.

Chapter Four

Chapter Four will present the study's findings generated from analysing data from both the quantitative and qualitative arms.

Chapter Five

The final chapter of this report will provide discussion and interpretation and importantly bring together the sources of data of the study's findings. The literature review will be used to place the findings within the context of what is already known in relation to the topic. The major points will be summarised. The study's conclusions, implications and recommendations for further relevant studies, practice and education will be highlighted. This section will also provide information pertaining to the strategy undertaken to disseminate the project's outcomes.

Summary of the Chapter

This introduction chapter has been concerned with identifying the context of the study, its purposes and relevant research questions. Several assumptions and definitions of the terms have also been covered. This section was intended to provide a rationale of why it is necessary to examine the *Puskesmas'* nurses HPLs and to understand how their personal HP practice influences their professional HP role in community health practice.

Chapter Two—Literature Review

Introduction

For this study, a review of the literature was undertaken to identify existing knowledge and justify the rationale for conducting the project. The literature review provides an opportunity to highlight gaps in the currently available evidence pertinent to the area under investigation. The processes undertaken to obtain the literature, including the sources and the keywords being used, are explained in this chapter.

The literature search activity explored both published and unpublished literature through internet and manual/hand searches. The online search was undertaken through the University of Adelaide, Barr Smith Library online search facilities to access databases, including Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, Scopus and Google Scholar. Keywords employed for conducting the search included, lifestyle, health promotion, health-promoting lifestyle, health behaviour, nurse's role, health promoter, role model, primary healthcare, community health centre and community health nurses. To confirm the search strategy, an experienced librarian was consulted. The reference database EndNote X5 for Windows was used to catalogue the literature that was identified. Grey literature was also searched for online and manually to locate the unpublished or not widely accessible literature relevant to the research topic, for example, the Indonesian government reports and policy statements in HP.

Lifestyle Diseases and Health Promotion

In recent years, non-communicable diseases (NCDs) have become the leading causes of death and significant predictors of burden of disease around the globe (World Health Organisation 2011a). Non-communicable diseases, often referred to as lifestyle diseases as the majority of them are preventable by modifying people's lifestyles (United Nations 2011), have emerged as an urgent concern across the world. The global

epidemiological transition attributed to rapid globalisation has made NCDs not only prevalent in developed nations as previously assumed, but they have also become serious threats for low-middle income countries and developing nations (World Health Organisation 2011a). In fact, the WHO's data indicate that nearly 80% of deaths attributed to NCD occur in developing countries (World Health Organisation 2011a).

The mortality and morbidity related to NCDs are caused by the cumulative effect of metabolic risk factors, such as being overweight or obese, hypertension, raised blood sugar and lipid levels (World Health Organisation 2011a). These metabolic risk co-morbidities are made more likely by a failure to address preventable behavioural risk factors or NCD-related lifestyles, such as tobacco use, unhealthy diet, physical inactivity and alcohol consumption (World Health Organisation 2011a, 2011b). Based on the evidence about the link between NCDs and their determinants, it is reasonable practice to develop strategies to modify the NCDs' underlying factors.

Encouraging people to adopt healthy lifestyles through HP is one of the interventions endorsed by the WHO to tackle the determinants of NCD-related lifestyles (World Health Organisation 2011a). The Ottawa Charter defines HP as '…the process of enabling people to increase control over, and to improve, their health' (World Health Organisation 1986; 2009, p. 1). As a holistic concept aimed at improving people's wellness, HP requires a relationship of trust amongst self, others and environment (Carlson & Warne 2007). Health promotion empowers people to take more control over their health and provides them with relevant knowledge and skills of wellness and healthcare system. It also raises awareness of the influence of extraneous factors on health (Naidoo & Wills 2000). These aspects, known as the social determinants of health, refer to the conditions where people are born, live, work, age, including the healthcare system (Marmot et al. 2008). The social determinants of health will strongly relate to individuals' lifestyles choices and behavioural risk factors, which subsequently will manifest into people's measurable health outcomes (Talbot & Verrinder 2010).

Health promotion is underpinned by a social view of health, which means that only by addressing the cultural, environmental, biological, political and economic determinants of health can we improve the population's health status (Talbot & Verrinder 2010). Therefore, any strategies aimed at promoting healthy lifestyles should be supported by

concrete actions to address the wider social determinants of health and strengthen health systems (World Health Organisation 2011a). Naidoo and Wills (2000) classify the HP strategy into several categories, where each of the approaches represent different ways of working, namely, medical preventive, educational, behaviour change, empowerment and social-change. Talbot and Verrinder (2010, p. 18) offer another framework to depict the relationships amongst the available HP strategies, labelled as 'continuum of HP approaches'. Interventions that focus on population socio-environmental aspects are placed at one end of the continuum, while the individual-focused interventions occupy the opposite end. The socio-environmental approach is directed to creating healthy public policies and supportive environments, as well as strengthening community actions (Talbot & Verrinder 2010). The socio-environmental approach is underpinned by an assumption that instead of merely focusing on an individual person for their unhealthy behaviours, termed as 'blaming the victim', HP strategies should be aimed at the wider system (Egger, Spark & Donovan 2005, p. 21). The behavioural approach provides health education or information to improve individuals' HP skills (Egger, Spark & Donovan 2005; Talbot & Verrinder 2010). This strategy acknowledges that an individual's health-compromising behaviour is the most significant factor causing their ill-health. The individual-focused interventions also can be delivered through a medical approach by means of screening, individual's risk-factor assessment, immunisation and surveillance (Talbot & Verrinder 2010). Jepson et al. (2010), explain that most HP programmes incorporate at least one of the following elements: health education and knowledge building, motivation and goal setting, and strategies targeting community to encourage behavioural change or overcome the structural or cultural barriers. The authors further maintain that HP interventions can be delivered either at an individual, community or whole population (Jepson et al. 2010).

In order to understand and predict people's tendency to engage in health behaviours, there are several models or theories of HP. Health promotion models or theories postulate that individual actions to live a healthier life are motivated by a desire to avoid disease or to increase the level of health in either the presence or absence of illness (promote health) (Pender, Murdaugh & Parsons 2006). These models not only specify the concepts underlying people's intention to adopt healthy behaviours and explain the relationships among those concepts, but also assist us to determine the appropriate strategy for promoting the change and to predict the likelihood of achieving

the expected outcomes (Naidoo & Wills 2000; Pender, Murdaugh & Parsons 2006). Pender, Murdaugh and Parsons (2006) explain and differentiate HP models or theories into those that focus on individuals clients (e.g., social cognition theories and stage-based models), and models or theories that emphasise populations and communities as clients.

Pender's Health Promotion Model

One of the HP theoretical models focusing on individual's health-promoting behaviour is Pender's HP Model (HPM), developed by Nola J. Pender (1982) as a conceptual model for exploring and predicting how an individual makes decisions about their own healthcare (Tillett 1994). Galloway (2003) suggests Pender's model is one of the most useful healthcare models and an influential theoretical framework in HP practice. Pender's model serves as a guide to delineate the bio-psychosocial mechanisms that underlie an individual's intention and decision to engage in HPLs. This process demonstrates the interplay among the multidimensional nature of persons interacting with their interpersonal and physical environments in an effort to achieve individuals' expected health status (Pender, Murdaugh & Parsons 2006). A health-promoting behaviour or HPL is defined as '…an expression of the human actualizing tendency directed towards optimal well-being, personal fulfilment, and productive living' (Pender, Murdaugh & Parsons 2006, p. 108). Moorhead (2008) simply defines a HPL as a personal action to sustain or increase their wellness.

Pender, Murdaugh and Parsons (2006, p. 44) further explain that '…the HPM proposes a framework for integrating nursing and behavioural science perspectives with factors influencing health behaviours'. The model was constructed by integrating several theories into a nursing perspective of holistic human functioning, including Bandura's Social Learning Theory, Fishbein's Theory of Reasoned Action, and Feather's Expectancy Value Theory (Pender, Murdaugh & Parsons 2006). The individual person is seen as the focus of the HPM (Pender 1996), as Tillett (1994, p. 510) explains:

> health promoting model identifies cognitive and perceptual factors in individuals that are modified by situational, personal, and interpersonal

> characteristics to result in the participation in health-promoting behaviours in the presence of a cue to action.

As the attributes that bear directly on individual's healthcare behaviours, the cognitive-perceptual factors constitute certain items, namely, an individual's perception of the importance of health, control of health, self-efficacy, definition of health, health status, and benefits and barriers to health-promoting behaviours (Galloway 2003; Pender 1996; Tillett 1994). The modifying factors consist of behavioural and situational factors, interpersonal influences that relate to social supports and expectations of others, and biological and demographic characteristics, such as age, gender, ethnicity, education, income and body weight. These modifying factors are viewed as having an indirect though significant influence on an individual's healthcare behaviour (Pender 1996). Another component of the HPM is the concept of cues, which is associated with the individual's tendency to take actions (Pender 1996).

Based on changing theoretical perspectives and on empirical findings, the original structure of the HPM was revised in 1996. Being structured differently, the revised form of the HPM consists of basically similar factors as the original model (Pender, Murdaugh & Parsons 2006). The revised HPM divides the predictors of health-related behaviours into two categories, namely, individual characteristics and experiences, and behaviour-specific cognitive and affect factors (Pender 1996; Pender, Murdaugh & Parsons 2002, 2006). Pender, Murdaugh and Parsons (2006) further explain that the aim of health-promoting behaviours is to achieve positive health outcomes. Integrating the health-promoting behaviour into someone's lifestyle will eventually result in '…improved health, enhanced functional ability, and better quality of life at all stages of development' (Pender, Murdaugh & Parsons 2006, p. 50).

Becker et al. (1989) applied the HPM to investigate factors associated with the occurrence of HPL among adults with disabilities. The results highlight the need to develop interventions addressing self-perceived barriers and encouraging a definition of health among the participants. Buijs et al. (2003) employed Pender's model in a qualitative evaluation of a HP programme for low income seniors and discovered that the best predictor of their participation in the programme was the perceived benefits of exercise. The most frequent reason for not attending the programme was having other

priorities (Buijs et al. 2003). The HPM has also been used in a study aimed at identifying the major factors affecting performance in health-promoting behaviours in women workers at small-scale industries, which concluded that social support was the most important predictor in this population (Bae et al. 2004).

The HPM also has been used as an appropriate model to underpin a study carried out by Esposito and Fitzpatrick (2011), which focused on the relationships between nurses' beliefs regarding the benefits of exercise, their exercise behaviour and their recommendation of exercise for HP or as part of a treatment plan. Evidence to confirm the usefulness of Pender's model was also found in a study by Keegan et al. (2012), which validated the applicability of the HPM as a motivational model for exercise and physical activity self-management among people with spinal-cord injuries.

The HPM has not only been employed as a theoretical framework underpinning a number of studies, but also has been used as a theoretical foundation to develop an instrument to assess an individual's health-promoting behaviours, the Health-Promoting Lifestyle Profile (HPLP) (Walker, S.N, Sechrist & Pender 1987).

Measurement of Health Behaviours: Health-Promoting Lifestyle Profiles

Based on the structure of the HPM, Walker and colleagues developed the HPLP in 1987, which consists of 48 items with six subscales around personal healthy lifestyles (Walker, S.N, Sechrist & Pender 1987). The HPLP design recognises that health behaviours are multidimensional in their scope and effect (Galloway 2003).

The original version of the HPLP was updated in 1996 and relabelled as the HPLP-II to more accurately reflect the current literature and practice and to achieve balance among the subscales. This instrument consists of 52 items with six subscales and provides a framework for articulating health behaviours by measuring an individual's HPL pattern on several domains, namely: health responsibility (HR), physical activity (PA), nutrition (Nu), spiritual growth (SG), interpersonal relations (IR) and stress management (SM). Health responsibility refers to being accountable for one's own

well-being (nine items), PA reflects a person's participation in various intensity of physical activities (eight items), Nu means being knowledgeable on food selection and consumption (nine items), SG is defined as being able to develop inner resources through transcending, connecting and developing a sense of spirituality (nine items), IR is demonstrated by someone's ability to develop a sense of intimacy and meaningful relationships with others (nine items) and SM means being able to manage personal tension (eight items) (Walker, S.N. & Hill-Polerecky 1996). The HPLP-II serves not only to provide information on an individual's HPL pattern, but also informs the development of an individualised HP programme by considering a person's lifestyle strengths and resources, and highlighting areas for further improvements (Pender, Murdaugh & Parsons 2006).

Following its first publication, the instrument has been translated into other languages, such as Japanese (Wei et al. 2000), Spanish (Hulme et al. 2003; Pérez-Fortis et al. 2012), Turkish (Pinar, Celik & Bahcecik 2009), Portuguese (Tajik, Galvão & Siqueira 2010) and Chinese (Meihan & Chung-Ngok 2011; Teng, Yen & Fetzer 2010). It has been analysed to ensure that the translated versions maintain the psychometric properties of the original instrument. It also has been used as a tool to provide a total profile on lifestyle behaviours in extensive numbers of studies, in particular those informed by Pender's HPM as mentioned earlier.

Health Promotion in Primary Healthcare Context

The Declaration of Alma-Ata defines primary healthcare (PHC) as:

> essential healthcare based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination (World Health Organisation 1978).

The Declaration of Alma-Ata specifies a minimum set of activities that should be undertaken if PHC is to be implemented in a healthcare system, namely, education concerning prevailing health problems and the methods of preventing and controlling them, promotion of food supply and proper nutrition, provision of an adequate supply

of safe water and basic sanitation, provision of maternal and child healthcare, immunisation against the major infectious diseases, prevention and control of locally endemic diseases, appropriate treatment of common diseases and injuries, and provision of essential drugs (World Health Organisation 1978).

Health promotion supported by the structural approach of PHC and the Ottawa Charter (Talbot & Verrinder 2010) is about empowering clients to integrate healthy habits into their lives and to live a productive life within their communities. As a first tier of health provision, PHC provides an essential context for HP because of its unique characteristics. Primary healthcare offers universal access for all people, because at some point in their lives, people will come into contact with PHC services. Then, being trusted and regarded as credible persons by the general population, health practitioners working in PHC may have a greater opportunity to influence people's knowledge, attitudes and beliefs on health. Other characteristics that may support the PHC centre as an appropriate site to promote people's healthy behaviours are its affordable and acceptable services (Talbot & Verrinder 2010). Primary healthcare centres may also offer better access because they are located within community settings, and facilitate better communication between service users and providers as they meet on more equal terms (Naidoo & Wills 2000). Moreover, adequate provision of PHC level services will often imply that more specialised hospital-based services are unnecessary (Naidoo & Wills 2000), leading to a more cost-effective healthcare practice. These characteristics, indeed, have placed PHC in a pivotal position to manage NCD-related lifestyles (Harris & Lloyd 2012).

Nurses' Roles in Health Promotion

Health Promoters

Promoting healthy lifestyles to people is regarded as an integral component of the health professional's role, notably for nurses, as they often play an instrumental role in encouraging people to embrace healthy lifestyles. Nurses are appropriately positioned to promote healthy lifestyles (Kemppainen, Tossavainen & Turunen 2012), as nurses interact with many people at key points in their lives (Kelley & Abraham 2007). Indeed,

Kendall (2008) argues that nurses remain the primary advocates and HP providers to clients in PHC settings.

Within the PHC context, there are a large number of studies with various target participants and settings with diverse research objectives, methods and findings that have been conducted to investigate the effectiveness of HP interventions carried out by nurses in PHC. The evidence generated from these studies vary, but overall there is some convincing evidence currently in place to support the notion that nurses do have a significant role in promoting healthy lifestyles among PHC clients.

Several studies provide unequivocal evidence and suggest that nurses' HP activities are effective in promoting people's health behaviours, such as a study by Meethien et al. (2011) to evaluate the effect of a nurse-led nutritional-education programme for promoting healthy eating among the aged (≥ 60 years) and their family members in Thailand. There is also Lawton's et al. (2008) study, which recruited physically inactive women aged 40 to 74 to participate in a nine-month exercise on prescription intervention in New Zealand, a study by Walker, Z et al. (2002) which evaluated the effect of HP consultation with teenagers in England, and a OXCHECK study that assessed the effectiveness of nurse-led health check programmes among patients aged 35 to 64 years in England (OXCHECK Study Group 1995).

Other studies generate mixed results, where nurse-led intervention is found to be effective in certain aspects of PHC clients' HPLs, but ineffective in positively influencing other health behaviour indicators (Tonstad, Alm & Sandvik 2007; Werch et al. 1996). Keleher et al. (2009) conducted a systematic review to compare the effect of nurse-led interventions with usual doctor-led care in primary care settings on patient health outcomes. Nurses were found to be effective in providing care management even with more diverse roles, including management of chronic disease, illness prevention and HP, and were effective in achieving good patient compliance. However, there was insufficient evidence about primary care nurses' roles and effects on patient health outcomes (Keleher et al. 2009).

Role Models in Health Promoting Lifestyles

The notion of regarding nurses as role models in living healthy lifestyles has been articulated in the literature for a number of years (Borchardt 2000; Clarke 1991; Curtin 1986; Kemppainen, Tossavainen & Turunen 2012; Rosenstock 1974; Valentine & Hadeka 1986). A search of the literature on nurses as role models in HPLs yields two different conceptualisations.

The first view from the literature equates nurses' credibility as role models exclusively based on whether or not they practise outwardly observable healthy behaviours. Regardless of its narrow perspective, many studies have been carried out adopting this conceptualisation. These studies are typically conducted to demonstrate an empirical link between nurses' HPLs and their tendency to raise health-promoting behaviour issues with their clients; the majority concluded that nurses who were aware of HPLs and follow the recommendation on practising HPLs would be more effective in performing their role as health promoters (Esposito & Fitzpatrick 2011; Fair, Gulanick & Braun 2009; Zhu, Norman & While 2011). Conversely, failure to adopt healthy lifestyles into nurses' personal lives would influence their abilities to promote healthy lifestyles to their clients (Radsma & Bottorff 2009; Slater et al. 2006).

The proponents of the second conceptualisation criticise former studies for their narrow perspective, which '…challenges the prevailing, narrow, healthy lifestyle definition of the health-promoting role model' (Rush, Kee & Rice 2005, p. 168). These authors argue that the way nurses view themselves as role models serves as a more important predictor of their capacity to fulfil their HP roles (Rush, Kee & Rice 2005).

Evidence on Nurses' Personal and Professional Health Promotion Practice

Extensive literature has suggested that nurses have a pivotal role in HP both as health promoters and role models, but unfortunately many studies reveal that nurses are not immune to risk in adopting unhealthy lifestyles in their own lives (Allison 2005; Bourne et al. 2010; Callaghan, Ma & Fung 1997; Edwards et al. 2008; Fair, Gulanick & Braun 2009; Hensel 2011; Malik, Blake & Batt 2011; Miller, Alpert & Cross 2008;

Sarna et al. 2012; Schluter, Turner & Benefer 2012; Servodidio 2011; Smith & Leggat 2007; Tucker et al. 2010; van Dam et al. 2008; Zapka et al. 2009).

In relation to tobacco use, for instance, the evidence in tobacco usage among nurses varies. Some studies report a decreasing smoking pattern in nursing staff, such as is found in a study yielded from New Zealand's census data to identify smoking behaviours among nurses and doctors (Edwards et al. 2008), in a review of tobacco usage in the nursing profession during 1976 to 2006 (Smith & Leggat 2007) and in Sarna et al. (2012) study conducted among US female nurses. In contrast, other studies found that smoking prevalence among nursing staff remains high, as confirmed in a study carried out among Jamaican healthcare workers (Bourne et al. 2010), in a study by Malik, Blake and Batt (2011), which compared health behaviours between registered and pre-registered nurses in England and in a study among Hong Kong's nurses (Callaghan, Ma & Fung 1997).

Bourne et al. (2010) also found that 43% from a total 212 healthcare workers (including nurses) were overweight, 33.5% were obese, 20% consumed alcohol on a regular basis, 15.6% did not engage on regular physical exercise and 42.4% used sweetening in their hot beverages. Together, these factors were found to link with a high number of diabetes mellitus, hypertension, heart disease and cancer among this study group. Similar findings were also discovered in a study conducted among hospital-based nurses by Zapka et al. (2009). This study revealed that a large proportion of nurses were overweight (37.2%) and obese (28.2%), many did not perform any weight management behaviour while most engaged in poor diet and PA patterns. Almost half of the sample from Malik, Blake and Batt's (2011) study reported that they failed to meet the recommended levels of PA, two-thirds did not consume enough fibre daily, and almost half ate foods high in fat and sugar. Hong Kong nurses also exhibited low PA levels, yet good nutrition practice was found, where 86% of nurses maintained body weight, 52% avoided food containing fats, 56% avoided cholesterol, 57% ate breakfast daily and 90% ate between meals (Callaghan, Ma & Fung 1997).

Poor PA performance was also discovered in a study by Hensel (2011) of hospital-based nurses in the United States. Fair, Gulanick and Braun (2009) undertook a study to elicit self-reported prevalence of cardiovascular risk factors and healthy lifestyles

among the Preventive Cardiovascular Nurses Association (PCNA) and compared the results to other national samples of women. They found that PCNA women had more favourable profiles, including lower rates of smoking, higher exercise levels, more healthy eating practices and lower rates of hypertension and dyslipidaemia. However, this study also highlighted that there were some cardiovascular risk factors found among the PCNA namely, high rates of obesity, high rates of general life and workplace stress and a prevalence of a family history of premature coronary artery disease.

Much is known about nurses' personal healthy behaviour pattern and its implications, however, further exploration is needed to understand the factors and mechanisms that contribute to nurses' decisions to adopt healthy lifestyles into their own lives (Callaghan 1999; Hensel 2008, 2011). Callaghan (1999) investigated the link between nurses' beliefs about the importance of health-related behaviours and their relationships with healthy behaviours. Callaghan (1999) found that nurses' health beliefs, which are believed to play a prominent role in guiding the adoption of health-related behaviours, significantly influenced their HPL practice. Hensel (2011) evaluated the relationships between nurses' healthy lifestyles and their professional or "nurse" self-concept, that is, perceptions of personal adequacy in their role. This study found that that every aspect of the nurse's self-concept was significantly related to their overall healthy lifestyle scores (Hensel 2011).

The available literature suggests that several factors in relation to nurses' personal, professional or organisational aspects contribute to difficulties encountered by nurses when practicing personal and professional healthy lifestyles (Callaghan 1999; Carlson & Warne 2007; Denehy 2008; Hensel 2011; Kaewthummanukul et al. 2006; Perdikaris et al. 2010; Schluter, Turner & Benefer 2012; Schluter et al. 2011; Tucker et al. 2010; Tucker et al. 2012; Witkoski & Dickson 2010). Studies showed a relationship between nurses' lifestyle practices and their occupational hazards or stressful working conditions, in which the increased levels of perceived stress were associated with lower health-promoting behaviour scores (Hope, Kelleher & O'connor 1998; Tucker et al. 2010; Tucker et al. 2012). The literature also revealed that public and professional expectations for nurses to provide seamless healthcare services and to act as role models in practicing healthy lifestyles further aggravated the burden experienced by nurses to practice healthy lifestyles in their own daily life (Denehy 2008; Hensel 2011;

Schluter, Turner & Benefer 2012; Tucker et al. 2012). Carlson and Warne (2007) concluded that the organisational environment within which nurses practice and nurses' educational exposure to HP influenced nurses' health-promoting practice at individual, organisational and professional levels.

Further explanations are found in the literature in regards to how a nurse's inability to adopt personal healthy behaviours may eventually deteriorate the provision and quality of care being provided, as reflected in poor patient care outcomes. Failing to practice healthy lifestyles contributes to risks of a variety of health problems among nurses. In fact, poor health is cited as a major reason why nurses decide to leave the profession before retirement age (Friis et al. 2007). Poor health status will result in worker absenteeism, presenteeism (i.e., nurses attending work when not feeling physically or mentally well, see Dew, Keefe and Small (2005)), disability and financial burden (World Health Organisation 2010). These unfavourable situations may negatively affect the workplace organisation because of increased cost, decreased productivity and decreased quality of customer service (World Health Organisation 2010). Pilette (2005), for example, found that presenteeism may negatively affect job performance, thus presenting a serious risk to patients. The incidence of medical errors was found to be higher if the nursing staff suffered from fatigue (Rogers et al. 2004; Scott et al. 2006).

Primary Healthcare and Health Promotion from the Indonesian Perspective

A shift from a centralised to a decentralised healthcare system in Indonesia has brought considerable implications, including for its human resource allocation, health information system, health financing system and health service provision (World Health Organisation 2012; World Health Organisation Country Office for Indonesia 2012). The decentralisation policy implies that the regional development has to be performed at a district or municipal level (Rokx et al. 2009).

In terms of health service provision, '…at primary healthcare level, Indonesia is generally regarded as having relatively adequate levels of provision' (World Health Organisation Country Office for Indonesia 2012). The implementation of a healthcare

programme at the primary level is carried out by the *Puskesmas*. The *Puskesmas* serves as the main functional healthcare organisation unit in Indonesia; thus, it has been placed as the backbone of the PHC system in this country (WHO Regional Office for South-East Asia 2007; World Health Organisation Country Office for Indonesia 2012).

There is at least one *Puskesmas* in each sub-district in Indonesia. In order to better serve the community within its coverage working area, a *Puskesmas* is generally supported by several sub-healthcare centres or supporting-*Puskesmas*, termed *Puskesmas Pembantu (Pustu)*. In addition to *Pustu*, a *Puskesmas* is equipped with four-wheel drive vehicles or motorboats—*Puskesmas Keliling (Pusling)*—to provide services to under-served populations. Other supporting units of a *Puskesmas* are village midwives—*Pondok Bersalin Desa (Polindes)*— which provide maternal and child healthcare services, and integrated-health service posts—*Pos Pelayanan Terpadu (Posyandu)*—community self-reliant activities in HP and prevention care (Ministry of Health Republic of Indonesia 2004; WHO Regional Office for South-East Asia 2007).

Built on the Alma-Ata principles of PHC (World Health Organisation 1978), a *Puskesmas* functions as a public health development centre, ensures community participation to promote healthy behaviours, and provides comprehensive and integrated services to the target the community or individual clients within its working area (Ministry of Health Republic of Indonesia 2004; Trihono 2005). Each *Puskesmas* is tasked to provide a set of mandatory health efforts/programmes termed 'the basic six', which cover HP effort, sanitation, maternal and child healthcare service, nutrition, prevention and eradication of infectious diseases, and cure/treatment programmes. Other health efforts are also acknowledged to accommodate the specific healthcare needs of the local communities (Ministry of Health Republic of Indonesia 2004; Trihono 2005).

Since 2007, the Indonesian Ministry of Health has endorsed a specific policy to impose the implementation of a 'health-promoting *Puskesmas*', which put *Puskesmas* at the centre of HP. This policy serves as a technical guidance for HP within a *Puskesmas* context by specifying some recommended strategies (i.e., empowerment, social support, advocating, partnership), HP methods and media, human resources for HP, settings for HP (in-house or inside the *Puskesmas* building and outside the *Puskesmas* or in the

community), and steps to undertake a HP programme in the *Puskesmas*. Through the 'health-promoting *Puskesmas*' policy, the government has also delineated the role of health practitioners working in *Puskesmas*, including nurses, to promote HPLs to their clients and simultaneously integrate healthy lifestyles into their own lives or act as role models (Ministry of Health Republic of Indonesia 2007).

Gaps in the Literature

As described above, there have been many studies carried out to assess nurses' HPLs with diverse findings and approaches. These have been conducted predominantly in developed countries. Some of these studies also attempt to link the nurses' personal HP practices with their capacity to perform their professional HP roles as health promoters, the majority suggesting that there is a direct association between the two variables. In general, although these studies shed important light on the chosen research topic, most have been undertaken using quantitative inquiries that may overlook the dynamic nature of the phenomenon and leave out the qualitative evidence regarding nurses' experience and perspective.

A review of the available literature also indicated a paucity of research exploring the phenomenon within a PHC context and even less so from an Indonesian viewpoint. Based on these gaps, this study was aimed to investigate the HPL pattern among nurses working across all *Puskesmas* in Denpasar city and simultaneously obtain an understanding of how the nurses view, experience and integrate their personal and professional HP practices. Understanding this phenomenon is crucial because the findings could highlight the need to develop HP strategies addressing specific groups, such as, nurses working in community health centres, which have received very little attention in current practice.

Summary of the Chapter

This literature review has provided an overview of HP practice both in general and specific PHC contexts. The role of nurses in HP has also been explained. This chapter

outlined empirical evidence on nurses' HPL patterns and their implications on their professional HP practice, as well as some factors that were found to impede or foster the nurses' tendencies to engage in personal and professional HP practices. The literature review identified the dearth of studies investigating this phenomenon within the PHC context. The literature search was unable to locate any relevant study from the Indonesian perspective, but an overview of the PHC system and HP practice in Indonesia was given to create a context for the study and to support the justification of conducting the project. The following chapter will explain the study's methods.

Chapter Three—Methods

Introduction

This chapter discusses how the protocol was implemented and the study was conducted. It provides the descriptions of the chosen study design, sampling and recruitment procedures, data collection processes, strategies to maintain the study's validity and reliability, ethical considerations, and data analysis. See Appendix One for the study's time table.

Research Design

This study employed a parallel mixed-methods (MM) design. Teddlie and Tashakkori (2009) define this method as the use of qualitative (QUAL) and quantitative (QUAN) techniques together in a parallel manner, where data collections can be conducted either simultaneously or with a time lapse. The parallel MM design was considered an appropriate design for this study because it enables the researchers to ask confirmatory and exploratory questions; thus, it assists the researchers to address the gap highlighted in the existing literature. The confirmatory questions are aimed at testing theoretical prepositions and the exploratory questions concern unknown aspects of the phenomenon. Thus, a parallel MM design can be used to verify and generate a theory in the same study (Teddlie & Tashakkori 2009). A study employing this design consists of at least two parallel and relatively independent strands; one with QUAN questions, data collection and analysis techniques, and the other with QUAL questions, data collection and analysis techniques. These two strands are planned and implemented to answer related aspects of the same overarching MM research question(s) (Teddlie & Tashakkori 2009).

In this study, a QUAN approach employing a questionnaire was used to descriptively examine and describe the nurses' HPL patterns, while the QUAL phase using semi-structured telephone interviews was conducted to gain more understanding of the

nurses' HPL and their professional HP practice from the participants' perspective. Combining different research methods rather than using either method alone enables researchers to capture a more accurate and comprehensive representation of phenomena under investigation (Foss & Ellefsen 2002; Morse 1991; Risjord, Dunbar & Moloney 2002). The decision to employ this study design is further justified by Burns and Grove (2001), who suggest that to uncover complex phenomena in nursing, such as HP, a combination of research methods may be required. A meta-inference technique was employed to generate conclusions by linking, combining or integrating inferences resulted from each strand (Teddlie & Tashakkori 2009). See the data analysis section below for further explanation of the meta-inference technique. Figure 1 illustrates the design of a parallel MM study (Teddlie & Tashakkori 2009, p. 152).

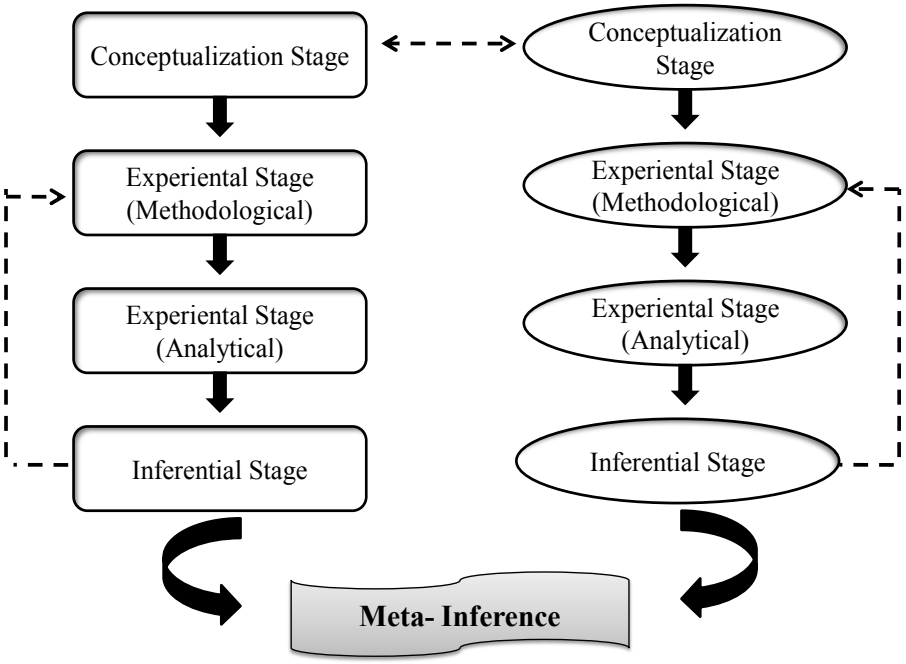

Figure 1 Illustration of a Parallel MM Design

Study Setting

The study was carried out among nurses working in all *Puskesmas* within the Denpasar city area. Denpasar, located in the southern part of Bali, is a multi-cultural and relatively affluent area covering urban and rural areas. Administratively, Denpasar city is divided into four districts with a total of 11 community health centres across the

regions, namely, North Denpasar (three *Puskesmas*), East Denpasar (two *Puskesmas*), South Denpasar (four *Puskesmas*) and West Denpasar (two *Puskesmas*).

Population and Sample

Data from the Denpasar District Health Office (2012) revealed that there were 111 nurses employed across all *Puskesmas*, all of whom were eligible to be included in the quantitative arm of data collection. Each of the *Puskesmas* employs seven to 16 nurses with various educational backgrounds ranging from high school level of nursing known as *Sekolah Perawat Kesehatan/SPK* (vocational degree or technical nurses), to diploma degree of nursing and bachelor degree of nursing (Denpasar District Health Office 2012).

The second approach of this study was conducted using convenience sampling to perform semi-structured telephone interviews with nurses working across any one of the *Puskesmas* in Denpasar. No specific number of participants was determined prior to the interview process as the focus of data collection was to explore and if possible achieve saturation of the themes (Donovan & Sanders 2005; Streubert & Carpenter 2011).

Data Collection

Quantitative Arm

The first approach to data collection in this study was performed using a questionnaire to examine and describe the nurses' HPL patterns. A questionnaire is a popular research instrument and a cost-effective method for collecting data from a large population (Jack & Clarke 1998), increasing the generalisability of results (Elliott & Schneider 2007). A questionnaire can be employed as the basis of a structured interview (administered by an interviewer), or completed by the research participant themselves (Williams 2003). The latter, which can be distributed in person, by mail or over the internet (Polit & Beck 2008), has some advantages. It can generate high quality data and may offer the

possibility of complete anonymity, leading to a more honest response (Marshall 2005; Polit & Beck 2008).

The questionnaire in this study was divided into two sections: section A, which contained several questions related to respondents' socio-demographic information, and section B, the Health-Promoting Lifestyle Profile II (HPLP-II) questionnaire (see Appendix Two). The socio-demographic items, which were developed based on reviewing the literature about health HPs, indicated the respondents' gender, age range, marital status, highest level of education, length of working experience, previous training in HP, employment status, financial status, living arrangement general health status, body mass index (BMI) components and smoking habits.

The HPLP-II consisted of 52 Likert-scale items with a four-point response format, where one represented 'never', two represented 'sometimes', three represented 'often' and four represented 'routinely'. In order to maintain the one to four metric of item responses and to allow meaningful comparisons of scores across subscales, it has been recommended by the developers of the tool to calculate means rather than sums of scale items. The total score of the HPLP-II represents an individual's HPL pattern. A score for overall HPL was attained by calculating a mean of the individual's responses to all 52 items. Similarly, the six subscale scores were obtained by calculating a mean of the responses to subscale items (Walker, S.N. & Hill-Polerecky 1996). A mean of ≥ 2.50 was considered a positive response, in line with previous studies (Al-Kandari, Vidal & Thomas 2008; Wei et al. 2012). A thorough psychometric evaluation had been performed by the instrument's developers to demonstrate the original HPLP's validity and reliability. The alpha coefficient of internal consistency for the total scale was 0.943 and for the subscales ranged from 0.793 to 0.872. The three-week test-retest stability coefficient for the total scale was 0.892 (Walker, S.N. & Hill-Polerecky 1996).

Prior to collecting the data, a cross-cultural adaptation of the original version of the HPLP-II was tested to ensure consistency in the content and face validity between the source and target versions of the questionnaire. This was conducted employing a procedure as suggested by Beaton et al. (2000). This adaptation was undertaken with permission from the HPLP-II developers. The cross-cultural adaptation steps can be outlined as follows (Beaton et al. 2000):

- Stage I: Initial translation of the original instruments into the Indonesian language (*Bahasa*) performed by two bilingual translators whose mother tongue was the target language. One of the translators was aware of the concepts being investigated in the questionnaire (T1) and another translator had no health or medical background (i.e., naive translator) (T2).
- Stage II: Synthesis of the translations using T1 and T2 to synthesise a combined translation (T12).
- Stage III: Back translation of the T12 by two bilingual translators whose mother tongue was the source language (English), totally blinded to the original version (BT1 and BT2), and without a health or medical background. This procedure was intended as a validity check procedure to identify gross inconsistencies or conceptual errors in the translation.
- Stage IV: The expert committee, including two methodologists, five health professionals, a language professional and the translators, consolidated all the versions of the questionnaires (the original instrument, T1, T2, T12, BT1 and BT2) and developed what would be considered the pre-final version of the instrument for field testing through consensus. During this stage, one of the original instrument's developers, S.N. Walker, was contacted through email to verify the meaning of some items in the original HPLP-II questionnaire. It was advised to add information about the example of Indonesian foods and their serving sizes in the nutrition-related items. Further, it was also decided to add information to clarify the intended meaning of the word 'force' in item number 48, which was referred to as God, the universe or anything meaningful to the person. This is similar to the previous researchers who used the adopted version of the HPLP-II among the Hong Kong population (Hui 2002).
- Stage V: Test for the pre-final version. As the final stage of a cultural adaptation process, it aimed to ensure the adapted version still retained its equivalence in an applied situation by asking samples to complete the questionnaire. Ten nurses working in *Puskesmas* in district areas close to Denpasar participated in this process. As advised by Hui (2002), to avoid bias in results of a study, subjects recruited for pilot testing the instrument should not be invited to participate in the main study, provided that both groups share similar characteristics. The nurses recruited for the pilot test were requested to answer the adapted

questionnaire to assess the clarity, readability, comprehension and cultural suitability of the adapted HPLP-II (Beaton et al. 2000; Pinar, Celik & Bahcecik 2009). They were asked to paraphrase their understanding of each item, to highlight any difficulties encountered when answering the questionnaire and to indicate the time they needed to complete the adapted HPLP-II. The pilot testing revealed that all participants could complete the questionnaire comfortably within 15 to 20 minutes. The pilot testing suggested minor grammatical changes to some questions, for example, changing 'me' to 'I' in the translation from English to Indonesian. These changes did not affect the structure, meaning or interpretation by the participants of the original questions.

A cross-cultural adaptation of the instrument as indicated in stage one to five above, however, did not automatically provide information on the retention of the psychometric properties of the original version. Thus, an instrument's psychometric validation test should be considered. It can be conducted simultaneously at stage five of the cross-cultural adaptation, but generally requires larger sample sizes (Beaton et al. 2000). In this project, the researchers had limited capacity in terms of time frame and financial constraints to perform a full validation of the psychometric properties of the adapted HPLP-II. In response to this concern, the reliability of the adapted HPLP-II was evaluated by measuring Cronbach's alpha coefficients (α) and item-total correlations for the total and each subscale using data generated from samples recruited in the actual study (Hui 2002; Sohng, Sohng & Yeom 2002). The Cronbach's alpha statistics assessed the instrument subscales internal consistency and measured the reliability of each construct (Cronbach 1951). They provided an estimation of the degree to which different parts of an instrument (i.e., items) were reliably measuring the variables being investigated (Polit & Beck 2008). Values ≥ 0.7 are required to demonstrate that the items are sufficiently correlated (Pallant 2011; Scholtes, Terwee & Poolman 2011). The item-total correlations demonstrated by calculating Pearson correlation coefficients were measured to evaluate the item-total consistency (Streiner & Norman 2003). The results indicate the extent to which each item correlates with the total score (Pallant 2011), with a value ≥ 0.2 indicating acceptable inter-total correlations (Kline 1994).

An invitation letter to participate in the project and a printed-version of the questionnaire were distributed to all *Puskesmas* in the Denpasar area. This process was

performed by the research assistants as the primary researcher was based in Australia. Before commencing this process, three research assistants who were academic colleagues of the primary researcher and were experienced in research methods were briefed on the nature of the study and its procedures, as well as their tasks and responsibilities. A plain language information statement sheet and a consent form were attached to the questionnaire. To maintain anonymity, the participants were not required to write their names on the questionnaire, a designated box to put the answered questionnaires was placed in each *Puskesmas*. To reduce the number of non-responses, a reminder notice was sent to each *Puskesmas* on the first and second week after the questionnaire had been distributed.

Qualitative Arm

The second arm of the data collection approach was conducted using a semi-structured telephone interview. There were a range of practical and ethical reasons for this, namely, the researchers had limited physical and financial capacities to perform face-to-face interviews with participants who were geographically living in a different country, and due to the sensitivity of the interview's topic, because the participants were requested to uncover their personal lifestyle information and their HP practices. Sturges and Hanrahan (2004) support the use of telephone interviews in qualitative research and describe that the telephone interview is a suitable method to explore information on sensitive issues because it offers a relatively higher perceived anonymity from the participants' perspective compared with other methods. Ultimately, it might increase the quality of data being collected. Moreover, a comparison of interview transcripts reveals no significant differences in results yielded from telephone or face-to-face interviews (Sturges & Hanrahan 2004). Other proponents of telephone interviews, Musselwhite et al. (2007), argue that as long as the interviewers are properly prepared by being able to employ effective communication techniques and comply with a standardised procedure, as well as understand the potential benefits and challenges of using the telephone interview, this method could be used as an effective, reliable and valid form of data collection. Finally, the decision on whether or not to use telephone interviews in qualitative research is dependent on many factors, including the

researchers' physical capacities, safety considerations, the important of the physical or visual context, available budgets and time constraints (Irvine 2011).

Before collecting the data, a pretesting of the telephone interview was carried out on two subjects with similar characteristics to the study's participants. It consisted of questions asking about the participants' HPLs and their professional HP practices. The data collection exercise enabled the researcher to assess the feasibility and acceptability or cultural appropriateness of the questions, to identify the average length of time needed to complete each interview and to identify any possible technical problems. Each interview exercise took around 20 to 30 minutes and the participants answered the questions comfortably. There was no significant technical issue encountered during the process nor were any participants distressed or concerned by the nature of the questions. The questions asked to the participants during the interview session can be seen in Appendix Three. If further detail was required, the questions were expanded during the interview session (probing questions).

Participants interested in being involved in telephone-based interviews who could be conveniently reached were followed up by the research assistants. Their willingness to participate was indicated by their statement of agreement on the previously attached information sheet and consent form in the first arm of the data collection. The prospective participants were requested to write their contact information. A follow-up telephone call was performed by the research assistants to arrange the telephone interview's schedule as preferred by the participants. All telephone interviews were conducted by the primary researcher and took into consideration the 1.5 hours time different between Adelaide and Denpasar. To maintain the participants' privacy and confidentiality, the interviewer did not ask the interviewees their personal identification information and they were referred to by a pseudonym in the research's report. The telephone interview was tape-recorded with the participants' knowledge and permission.

Ethical Considerations

Any research involving human beings as a subject should be ethically and legally conducted.

> Ethical and legal issues in research are concerned with the protection of human participants for whom there are ethical codes and legal regulations to ensure the absence or minimisation of harm, trauma, anxiety or discomfort (Coup & Schneider 2007, p. 81).

Adhering to ethical principles ensures that the research is carried out while protecting the rights of the human subject, maintaining high standards of integrity and avoiding research misconduct (Polit & Beck 2008). In general, ethical principles include respect for autonomy and individual responsibility through the provision of an informed consent, respect for privacy by keeping matters concealed through anonymity or formal confidentiality procedures, respect for justice (fairness in dealing with others), beneficence (doing good and preventing or removing potential harms), respect for human vulnerability and integrity because some groups of people are more vulnerable to exploitation than others and require special protection, and respect for cultural diversity (Coup & Schneider 2007). Polit and Beck (2008) outline several procedures to maintain the study participants' rights, including a risk/benefit assessment, the implementation of informed consent procedures and taking steps to safeguard participants' confidentiality. These authors, however, argue that researchers may not be objective in conducting those procedures by themselves because of their commitment to an area of knowledge and their desire to maintain the study's rigour (Polit & Beck 2008). Therefore, before conducting a project, the ethical aspects of a study should be reviewed by the respective ethics committee(s) (Coup & Schneider 2007; Polit & Beck 2008).

In this study, ethical approval to conduct the project was received from the Human Research Ethics Committee (HREC), University of Adelaide (UofA) (see Appendix Four). Access to the target population and permission to perform the study in Denpasar, Bali, was granted by the local authorities (see Appendix Five and Six). The following

figure outlines the steps undertaken by the researchers to obtain ethical and research approval from the respective ethics committee and local authorities.

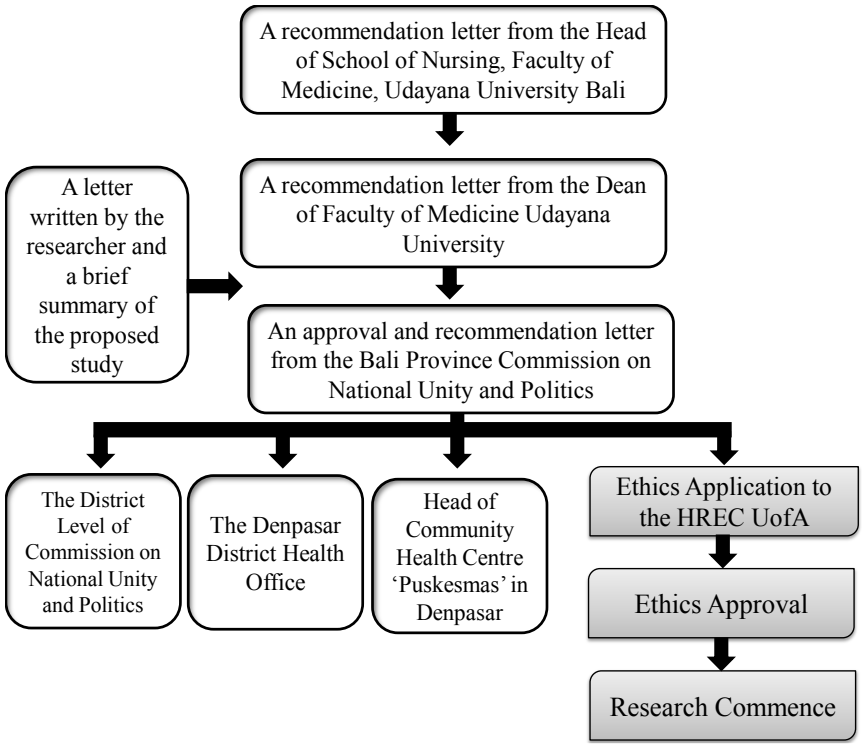

Figure 2 Procedure Undertaken to Obtain Research Approval from Relevant Authorities

The prospective participants were given consent forms, complaints sheets and participant information sheets listing items as recommended by the HREC UofA (see Appendix Seven, Eight, and Nine). All documents were translated into the target language (*Bahasa*). The participant information sheet served both as an invitation letter to request the individual's participation and as an information sheet to explain the study's purpose, procedure and potential risks/benefits, and to assure the participants' of their anonymity and that all information provided would be kept confidential. More specifically, to maintain privacy and anonymity, the participants were not required to write their name on the questionnaire and a designated box to put the answered questionnaires was placed in each *Puskesmas*. The participant information sheet also informed them that participation was voluntary and that participants might withdraw from the study at any stage without penalty. An explanation of whom to contact for answering any questions or complaints pertaining to the study was also included. No costs were incurred by the individual participants. As a part of customary practice in the

targeted area, a souvenir bearing a HP message was given to each participant as an incentive during the survey-based questionnaire. Similarly, a food voucher was offered to every nurse participating in the telephone interview session.

Any personal identifiers were removed from the data at an early stage. The study results were pooled for the thesis project and individual results of this study remained confidential and anonymous. To assist in the maintenance of confidentiality, the interviews were transcribed by the primary researcher. Before writing up the report, participants were invited to review the interview transcripts and interpretation. All participants were assured of anonymity in the presentation of the study findings and any publications that were resultant from the study by referring to each participant to a pseudonym.

As the nature of this study was requesting the participants to disclose their personal lifestyle information and HP practices, which may result in psychological or emotional discomfort or inconvenience, a referral to a counsellor from the university hospital in Denpasar was made available for those who expressed a need. The participants' signatures on the consent forms signified a willingness to participate in the study. All materials and records either in written or electronic form yielded from this study were kept in a locked filing cabinet and password protected folders within USB mass-storage devices. Upon completion of the study, all data will be stored in a secure area at the university as per policy and retained for five years and accessible only to those authorised.

Validity and Reliability

Several strategies were carried out to maintain the study's rigour. For the quantitative arm, validity and reliability issues were addressed by pilot testing the instrument (Elliott 2007) after performing a cross-cultural adaptation of the existing validated instrument (Beaton et al. 2000). The psychometric properties of the adapted instrument were evaluated using data generated from samples recruited in the actual study (Hui 2002; Sohng, Sohng & Yeom 2002). In addition, a total sampling technique was chosen to select respondents for the quantitative data collection. It enabled researchers to more

precisely capture the actual incidence and characteristics of the variables being investigated (Schofield 2004), therefore, it may increase the generalisability of the results. In the qualitative arm, rigour and trustworthiness were established by conducting each interview using the same basic list of questions, which helped in achieving data saturation. Additionally, an audit trial, a member checking and a weekly team meeting were conducted throughout the study. The transferability of the findings was enhanced by providing sufficient information pertaining to the study's context (Beck 1993; Guba & Lincoln 1989; Krefting 1991).

Data Analysis

At the beginning of data analysis, the procedure was differentiated into two distinct processes, that is, QUAN data analysis using descriptive and inferential statistics for the relevant data, and QUAL data analysis employing a thematic analysis. Although being analysed using two separate processes, each strand had a great potential to reveal information of the studied phenomenon. At the end of the data analysis procedure, a meta-inference technique was employed to generate conclusions by integrating inferences that had been obtained from the results of the QUAN and QUAL strands (Teddlie & Tashakkori 2009).

Quantitative Strand 'Statistical Analysis'

The data generated from the questionnaire-based data collection was analysed using the Statistical Package for Social Science (SPSS) program version 20 for Windows. The data analysis was started with preparation of a codebook and data file, entering the data, screening for errors and cleaning the data (Pallant 2011). Descriptive statistics, such as frequency distributions and measures of central tendency, were used to analyse the data, in particular to depict characteristics of the participants. Frequency tables and graphs displaying the variables and their frequency or proportion of occurrence were used to aid in reporting and communicating the results. Descriptive statistics were also involved in preliminary analyses to check the required assumptions (i.e., normal distribution) before applying statistical techniques to address the second research question.

Parametric statistics, including independent t-tests and one-way analysis of variance (ANOVA) (Pallant 2011; Petrie & Sabin 2009), were employed to compare the HPLP-II scores between groups and to identify any significant differences in participants' HPLs according to their socio-demographic factors. There are several general assumptions that should be considered before using the parametric statistics, including sampling technique, independence of observations, normal distribution, and homogeneity of variance (Pallant 2011). In SPSS, the results for the homogeneity of variance is demonstrated by the Levene's test output, where a significance value of less than 0.05 suggests that the variance of the groups being compared are not equal and the assumption of homogeneity of variance is violated. In this case, one should consult a table in SPSS output titled 'equal variances not assumed' for the t-test values or that headed 'robust tests of equality of means' for the F-values in ANOVA (Pallant 2011).

The independent t-test in this study assisted to determine whether there was a statistically significant difference in the mean score of HPLP-II according to one categorical independent variable with two distinct categories, such as gender and previous training in HP. The one-way between groups ANOVA has the same function as the t-test, but the categorical independent variable should have three or more distinct categories (Pallant 2011). The ANOVA compared the variance i.e. the variability in scores of HPLP-II between the groups with the variability within each of the groups through calculating an F-ratio, which represented the variance between the groups divided by variance within the groups (Ho 2006; Pallant 2011). A large F-ratio indicates that there is more variability between the groups than there is within each group (Pallant 2011). If the overall F-ratio is significant, post-hoc analyses (also called multiple comparison tests) will be performed to identify where these differences lie (Kellar & Kelvin 2013; Landau & Everitt 2004; Pallant 2011; Tabachnick & Fidell 2007). The post-hoc analyses were conducted employing either the Tukey's Honestly Significant Different (HSD) (equal variance assumed) or Games-Howell test if the variances were unequal (Armstrong, Slade & Eperjesi 2000; Hilton & Armstrong 2006; Tabachnick & Fidell 2007). Statistical significant was accepted at p value < 0.05.

Qualitative Strand 'Thematic Analysis'

The telephone interview data were analysed using a thematic analysis to identify, analyse and report particular patterns by searching within the data set to locate repeated patterns of meaning, termed themes (Braun & Clarke 2006). Streubert and Carpenter (2011, p. 46) define themes as '…the structural meaning units of data'. Themes characterise the experiences of individual participants by general insights from the whole of data (Bradley, Curry & Devers 2007). All data were translated into English by the primary researcher and one experienced translator who worked independently. The data generated from the QUAL strand were analysed manually because although computer software can assist analysis of qualitative data (Polit & Beck 2008), it can hinder intimacy with the data (McPherson et al. 2004; Pope, Ziebland & Mays 2000; Webb 1999). A six-phase general strategy was employed to help the researcher conducting the thematic analysis, which can be outlined as follows (Braun & Clarke 2006):

- Being familiar with the data by transcribing, reading and re-reading the data, and noting down initial ideas.
- Generating initial codes by coding interesting features of the data in a systematic way across the entire data set and collating data relevant to each code. In the present study, the primary researcher did the initial coding manually by highlighting the data using coloured pens to indicate potential patterns, followed by organising the codes (i.e., keywords) into a single table.
- Searching for themes. Bernard and Ryan (2010) outline several theme identification techniques and provide guidelines to select the most appropriate strategy for a particular project. The decision should take into account the kind of data that we have, how much skill and labour are required, the number and types of themes to be generated, and whether or not we are going to test the reliability and validity of the produced themes. Based on Bernard and Ryan's (2010) recommendation, this study using data of brief descriptions, employed techniques looking for repetition and making comparisons across units of data to locate any similarities and differences. In searching for themes, the researcher was required to collate codes into potential themes and then gather all data that were relevant to each potential theme.

- Reviewing the themes. The researcher checked whether or not the themes worked in relation to the coded extracts (level one) and the entire data set (level two). Generating a thematic 'map' of the analysis was completed before the researcher continued to the next phase. This thematic map helped the researcher understand the relationship between codes and themes (or subthemes).
- Defining and naming the themes. This involved on-going analysis to refine the specifics of each theme and the overall story of the analysis, and involved generating clear definitions and names for each theme.
- Producing the report. The researchers selected vivid and compelling extract examples, completed final analyses of selected extracts, related back the results to the research question and literature survey, then wrote a report of the analysis.

Braun and Clarke (2006) emphasise that the proposed strategy should not be used as rigid guidelines because a thematic analysis is known to be a flexible approach, which, according to Patton (1990), needs to be applied flexibly to fit the research questions and data. In addition, this analysis strategy should not be seen as a linear process simply moving from one phase to the next. The process of analysis represents an iterative process, moving back and forth throughout the phases, when necessary (Annells & Whitehead 2007; Braun & Clarke 2006; Polit & Beck 2008; Streubert & Carpenter 2011). Before writing the report, participants were invited to confirm the authenticity of the interview's transcripts and interpretation.

Integrating the Quantitative and Qualitative Strands

Meta-inferences are conclusions generated through an integration of the inferences that were obtained from both strands of the study (Teddlie & Tashakkori 2009). This final stage in a MM study's data analysis determines the overall quality of the project, which in turn is influenced by the degree to which integration, blending or linking of QUAL and QUAN inferences is achieved (Teddlie & Tashakkori 2009). Indeed the authors argue that:

> the most important step in any MM study is when the results (i.e., findings, conclusions) from the study's QUAL and QUAN strands are incorporated into a coherent conceptual framework that provides an effective answer to the research question (Teddlie & Tashakkori 2009, p. 286).

and

> conclusions gleaned from the two strands are integrated to provide a fuller understanding of the phenomenon under study. Integration might be in form of comparing, contrasting, building on or embedding one type of conclusion with the other (Creswell & Tashakkori 2007, p. 108).

Rather than focusing on making a single understanding based on the findings yielded from both strands, this integration is aimed at creating '…meaningful conclusions' on the basis of either consistent or inconsistent results (Teddlie & Tashakkori 2009, p. 305). Inferences generated from each strand, if found to be consistent, should increase the researcher's confidence in the conclusions. On the other hand, when a disagreement occurs between the inferences, it might imply that these inferences provide insight into different aspects of the same phenomenon (Erzberger & Kelle 2003), therefore, their integration will yield '…a more complete meaning, a Gestalt that is bigger than the sum of its parts' (Teddlie & Tashakkori 2009, p. 306).

Teddlie and Tashakkori (2009) propose a set of general guidelines for making credible inferences. The strength of inferences generated from QUAN and QUAL strands will determine the quality of the meta-inferences in a MM study. The recommended generic guidelines include:

- Keep the research purposes and research questions in the foreground of all of our analyses and interpretations.
- State each question or sub-question separately and examine or summarise all of the results relevant to that question/sub-question.
- Create tentative interpretations about each part of the results, in the form of an answer to a research question or a component of it.
- Examine our answers to the questions, or our interpretations, to see if we can combine them through comparing, contrasting, combining, or trying to explain differences (Teddlie & Tashakkori 2009).

To assess the quality of inferences created in MM research, Teddlie and Tashakkori (2009) recommend the use of an integrative framework, which is argued to be more practical rather than using each of the QUAN, QUAL, and meta-inferences standards separately. This framework consists of two broad families of criteria, including design quality and interpretive rigour. Equally important, it is also necessary to assess the

transferability of inferences in a MM study (Teddlie & Tashakkori 2009). Design quality concerns the degree to which researchers have chosen and implemented the most appropriate procedures for answering the research questions. The interpretive rigour addresses the process of making inferences that refers to the extent to which credible interpretations have been made on the basis of findings yielded from the study. The criteria for addressing the interpretive rigour include the interpretive consistency, theoretical consistency, interpretive agreement, interpretive distinctiveness, integrative efficacy, and interpretive (integrative) correspondence (i.e., the extent to which meta-inferences satisfy the initial purpose for using an MM design) (Teddlie & Tashakkori 2009). The integrative efficacy, in particular, is a unique criteria in a MM study in that it does not apply to QUAN/QUAL strands separately and refers to '…the degree to which an MM researcher adequately integrates the findings, conclusions, and policy recommendations gleaned from each of the study's strands' (Teddlie & Tashakkori 2009, p. 305).

Summary of Chapter

This study employed a parallel MM design and recruited nurses working across all *Puskesmas* in the Denpasar area. The study was carried out after obtaining permission from the local authorities and ethical approval from the ethics committee. The data were collected through a self-administered questionnaire and telephone interviews. The questionnaire was translated and culturally adapted from an existing instrument with some additional items to assess participants' demographic characteristics. The telephone interview was a semi-structured interview employing a list of questions developed through reviewing the literature pertinent to the chosen topic. The quantitative data were analysed using SPSS version 20 for Windows. A manual thematic analysis was performed to analyse data yielded from the telephone interviews. To generate final conclusions, inferences from each data strand were linked, combined or integrated. The next chapter will present results generated from analysing the data.

Chapter Four—Results

Introduction

This chapter presents the results of the study, which was aimed at describing the personal health-promoting lifestyles (HPLs) among nurses working in community health centres, *Puskesmas*, determining whether there were any significant differences between the participants' selected socio-demographic variables and their HPL patterns, and obtaining an understanding of how the nurses view, experience and integrate their personal and professional promotion practice (HP) practice.

For reasons of clarity and following the framework of parallel mixed-methods (MM) design recommended by Teddlie and Tashakkori (2009), results yielded from this study are presented in two sections, QUAN and QUAL. The first section covers findings generated from the QUAN strand, including the information pertaining to the instrument reliability test results, the questionnaire response rates, the participants' socio-demographic characteristics, the HPLs patterns, and the analysis of HPLs based on the participants' socio-demographic characteristics. Section two presents the results generated from the QUAL data, employing a thematic analysis predominantly aimed at addressing the third research question. The findings are reported by key themes generated by systematically analysing the data yielded from the telephone interviews.

Findings

Quantitative Strand

Reliability of the Adapted Health-Promoting Lifestyle Profiles-II Questionnaire

Table 1 shows that except for the Nutrition subscale, the instrument's total scale and five subscales, namely, health responsibility (HR), physical activity (PA), spiritual growth (SG), interpersonal relations (IR), and stress management (SM), indicated satisfactory internal consistencies ($\alpha \geq 0.7$). The analysis of the 52 items of the adapted HPLP-II revealed that two items from the Nu and SM subscales (items two and five)

showed corrected item-total correlation values less than 0.20 (r = 0.13 and 0.17, respectively). In addition, when item-total correlation was calculated specifically on the Nu subscale, one item (item eight) valued below the required standard (r = 0.182). Overall, it can be concluded that the adapted HPLP-II has adequate psychometric properties.

Table 1 Internal Consistency of the Indonesian HPLP-II (*N* = 100)

Subscale	Number of Items	Cronbach's Alpha Coefficient (α)	Item-Total Correlation (r)
Total scale	52	0.928	0.13–0.64
Health responsibility (HR)	9	0.776	0.25–0.60
Physical activity (PA)	8	0.805	0.37–0.65
Nutrition (Nu)	9	0.683	0.18–0.52
Spiritual growth (SG)	9	0.827	0.41–0.71
Interpersonal relations (IR)	9	0.830	0.42–0.68
Stress management (SM)	8	0.740	0.27–0.58

Questionnaire Response Rates

Following the latest data published regarding staff numbers by the Denpasar District Health Office (2012), 111 questionnaires were distributed to all *Puskesmas* across the Denpasar area. In total, 101 questionnaires were returned, giving an overall response rate of 90.99%, which indicated the *Puskesmas* nurses' enthusiasm to participate in this study. One questionnaire was not included into data analysis because of incomplete information. There were no missing data in the remaining 100 questionnaires.

Participants' Socio-Demographics Characteristics

The quantitative data analysis was carried out based on 100 valid questionnaires returned by the participants from all *Puskesmas* in the Denpasar area (see Table 2 below), the majority of which were women (89%). This gender ratio was reflective of the national and international statistics on nursing workforce composition, which are generally dominated by women (World Health Organization 2013).

Table 2 Socio-Demographic Characteristics of the Participants ($N = 100$)

Characteristics	Number	Percentage
Gender		
Male	11	11
Female	89	89
Age		
≤ 20 years	2	2
21–30 years	18	18
31–40 years	21	21
41–50 years	34	34
> 50 years	25	25
Marital status		
Single	8	8
Married	89	89
Divorced/widowed/separated	3	3
Living arrangement		
Extended family	5	5
Nuclear family	91	91
Alone	4	4
Education level		
Vocational degree or technical nurses	47	47
Diploma	46	46
Bachelor degree	7	7
Working experience in *Puskesmas*		
< 1 years	6	6
1–5 years	20	20
6–10 years	14	14
> 10 years	60	60
Health promotion training/courses		
Ever	30	30
Never	70	70
Employment status		
Permanent	94	94
Temporary	6	6
Income (per month)		
< 1,500,000 IDR	5	5
1,500,000 to 3,000,000 IDR	53	53
> 3,000,000 IDR	42	42
General health status		
Excellent	18	18
Good	66	66
Fair	15	15
Poor	1	1
Body Mass Index		
Underweight	5	5
Normal	63	63
Overweight	31	31
Obese	2	2
Smoking habit		
Yes	3	3
No	97	97

Only two participants were aged 20 years or under. A significant number of nurses aged 41 to 50 (34%) and above 50 (25%) years old were found; this very much mirrors the worldwide situation (WHO 2013), where the global nursing workforce has been entering the era of an aging nursing population. Most of the participants were married (89%). The majority of the participants were living in a nuclear family (91%) defined as two generations (parent and children) living in one house.

In relation to the participants' level of education in nursing, almost similar percentages were found between participants who had a vocational degree (47%) and those who had a diploma degree (46%). Most of the participants were permanent employees in the respective *Puskesmas* (97%). The participants' working experience varied widely, but the majority of them (60%) had been working in *Puskesmas* for more than 10 years, and only six (6%) of them had work experience of less than one year. In terms of data on HP training/courses, only 30% of participants had been participating in such programmes.

The majority of the participants (95%) had a monthly income above the regional minimum wage, which according to the latest data available is 1,358,000 IDR/month (Bali Provincial Governor 2012). This study also discovered that most of the participants were satisfied with their health status, where 18% rated their health as excellent and 66% perceived their general health status as good. While more than half of the participants (60%) had a normal BMI, 5% were considered underweight, 31% classified as overweight and 2% obese. Almost all of the participants were non-smokers (97%).

Health-Promoting Lifestyle Patterns

As shown by the following table, the HPLP-II scores across all categories ranged from 2.20 to 2.99. The total participants (N = 100) had an overall mean (M) of 2.66 (SD = 0.33). Among the six HPLP-II subscales, the highest score was for the SG subscale (M = 2.95, SD = 0.44) and the lowest score was shown by the PA subscale (M = 2.20, SD = 0.48). The widest different between the highest (3.50) and the lowest scores (1.00) was found in the PA subscale, with a value of 2.50. The narrowest range was observed on the total scale (1.69). A maximum score of 4.00 was found in the SG and IR domains.

Table 3 Total HPLP-II and Each Subscale Scores ($N = 100$)

Scale	HPLP Score (Mean)	Standard Deviation	Range	Minimum	Maximum
Total scale	2. 66	0.33	1.69	1.83	3.52
HR	2.63	0.40	2.22	1.67	3.89
PA	2.20	0.48	2.50	1.00	3.50
Nu	2.71	0.41	1.89	1.89	3.78
SG	2.95	0.44	2.22	1.78	4.00
IR	2.79	0.42	2.44	1.56	4.00
SM	2.62	0.47	2.12	1.63	3.75

Health Promoting Lifestyles Based on Socio-demographic Characteristics

Prior to commencing the statistical analysis to determine whether there were any significant differences between the participants' selected socio-demographic variables and the HPLP-II scores, a normality assessment was conducted. The results indicated that the dependent variables (i.e., total scale and all subscales of the HPLP) were normally distributed. Based on this finding, independent t-tests and one-way ANOVA were carried out. The chosen values for the t-test and F-value of the ANOVA were selected based on the Levene's test results showed in the SPSS outcome (Pallant 2011). If indicated, following the one-way ANOVA, post-hoc analyses were conducted (Kellar & Kelvin 2013; Landau & Everitt 2004; Pallant 2011; Tabachnick & Fidell 2007). Statistical significance was accepted at a p value < 0.05. See Table 4 below for the tests' results.

The independent t-test indicated that the males had overall higher HPLP-II scores than the females, with the highest score found in the SG subscale ($M = 3.07$, $SD = 0.54$). The one-way ANOVA showed that participants aged between 21 to 30 years had the highest scores in total scale, HR and IR subscales, while the highest scores in the four other subscales (PA, Nu, SG, SM) were found among those aged between 31 to 40 years. According to participants' marital status, scores in total scale, PA and SM were revealed to be higher in those who divorced/widowed/separated. Those who married had the highest scores in Nu, SG and IR. In the HR subscale, single participants were

found to have the highest score. Participants who were living in a nuclear family had higher scores in almost all domains, except in the PA subscale, which was found to be higher among those living in their own. Nevertheless, all of those tests showed that there were no significant differences in all scores (i.e., total scale and six subscales) according to participants' gender, age, marital status and living arrangement.

According to the participants' level of nursing education, results showed that those with a bachelor degree qualification had higher means in overall HPLP-II scores compared with those with vocational and diploma degrees. This finding, however, was *not* statistically significant.

The one-way ANOVA based on participants' working experience in *Puskesmas* indicated that the highest scores in total scale and SM subscale were shown by those with working experience between six to 10 years, while HR, SG and IR were found with highest scores in participants with one to five years working experience. The highest scores in the PA and Nu subscales were discovered among those who had been working for less than one year and more than 10 years, respectively. Only on SG (F = 6.38, p = 0.00)[a] was the result found to be statistically significant, which then was followed up by calculating the post-hoc analysis using the Games-Howell test. The findings indicated that participants with working experience < 1 years (M = 2.71, SD = 0.13) was significantly different from those in their one to five years working period (M = 3.02, SD = 0.38) and participants with six to 10 years working experience (M = 3.14, SD = 0.37), but did not differ significantly from those who have been working for more than 10 years (M = 2.91, SD = 0.47). Based on whether or not participants had ever participated in specific HP training or courses, it was found that except for SG and SM subscales, those who had ever joined in such programmes had higher scores, but with no statistically significant results.

Other than in the HR subscale, participants with permanent employment status were found to have higher scores in other domains (total scale, PA, Nu, SG, IR, SM) compared with temporary employees. These findings were statistically significant in the Nu (t = 2.29, p = 0.02) and SG (t = 4.03, p = 0.02) subscales.

The HPLP-II scores across all domains were higher among participants with monthly incomes of more than 3,000,000 IDR compared with their counterparts with lower monthly incomes, with statistically significant results in the Nu ($F = 6.37$, $p = 0.00$), SG ($F = 6.05$, $p = 0.01$)[a] and SM ($F = 4.00$, $p = 0.03$)[a] subscales. To identify where the differences lie, these findings were further analysed employing the Tukey's HSD test for Nu and the Games-Howell test for SG and SM. It was indicated that the mean score in Nu and SG subscales for participants with monthly incomes < 1,500,000 IDR were significantly different from those with higher monthly incomes. The mean score in the SM subscale for participants with monthly incomes > 3,000,000 IDR ($M = 2.76$, $SD = 0.51$) was significantly different from those with lower incomes.

Participants who rated their general health status as excellent had higher scores across all domains compared with those who perceived their health status as less favourable, with statistically significant findings in total scale ($F = 3.15$; $p = 0.03$), HR ($F = 4.19$, $p = 0.01$), SG ($F = 3.46$, $p = 0.02$) and IR ($F = 3.16$, $p = 0.03$). Even so, post-hoc analyses could not be performed to find where the differences lay between the perceived health status categories because one group had fewer than two cases (Pallant 2011). Based on the BMI categories, the one-way ANOVA revealed non-statistically significant results across all of the HPLP-II scores, with total scale, HR, Nu and SM scores found to be higher among those classified into the normal BMI group. Physical activity score was shown to be higher in overweight participants, while the underweight participants had higher scores in the remaining two subscales (SG and IR). When smoking status was analysed to compare the participants' HPLP-II scores, nurses who smoked, a small sample, were found to have higher scores in all domains without any statistically significant results.

Table 4 Health-Promoting Lifestyle Profile II (HPLP-II) Scores According to Socio-Demographic Variables ($N = 100$)

Characteristics	Total Scale (Mean ± SD)	HR (Mean ± SD)	PA (Mean ± SD)	Nu (Mean ± SD)	SG (Mean ± SD)	IR (Mean ± SD)	SM (Mean ± SD)
Gender							
Male	2.78 ± 0.40	2.76 ± 0.44	2.38 ± 0.52	2.74 ± 0.48	3.07 ± 0.54	2.84 ± 0.41	2.84 ± 0.55
Female	2.65 ± 0.32	2.62 ± 0.39	2.18 ± 0.47	2.71 ± 0.40	2.94 ± 0.42	2.79 ± 0.42	2.59 ± 0.46
t-value (*Sig.*)	1.24 ($p = 0.22$)	1.11 ($p = 0.27$)	1.33 ($p = 0.19$)	0.22 ($p = 0.83$)	0.96 ($p = 0.34$)	0.39 ($p = 0.69$)	1.69 ($p = 0.09$)
Age							
≤ 20 years	2.43 ± 0.25	2.50 ± 0.55	2.07 ± 0.09	2.33 ± 0.16	2.67 ± 0.16	2.50 ± 0.40	2.44 ± 0.85
21–30 years	2.73 ± 0.23	2.84 ± 0.32	2.20 ± 0.37	2.71 ± 0.42	3.04 ± 0.34	2.99 ± 0.30	2.54 ± 0.37
31–40 years	2.65 ± 0.38	2.63 ± 0.38	2.15 ± 0.56	2.65 ± 0.59	3.02 ± 0.45	2.79 ± 0.41	2.59 ± 0.54
41–50 years	2.68 ± 0.38	2.58 ± 0.46	2.24 ± 0.54	2.79 ± 0.41	2.99 ± 0.48	2.79 ± 0.48	2.67 ± 0.49
> 50 years	2.60 ± 0.28	2.57 ± 0.33	2.19 ± 0.40	2.69 ± 0.36	2.81 ± 0.42	2.68 ± 0.37	2.65 ± 0.47
F-value (*Sig.*)	0.69 ($p = 0.60$)	1.68 ($p = 0.16$)	0.17 ($p = 0.95$)	0.85 ($p = 0.50$)	1.25 ($p = 0.30$)	1.75 ($p = 0.15$)	0.33 ($p = 0.86$)
Marital status							
Single	2.61 ± 0.20	2.77 ± 0.28	2.11 ± 0.44	2.64 ± 0.49	2.86 ± 0.17	2.79 ± 0.28	2.41 ± 0.29
Married	2.66 ± 0.34	2.62 ± 0.41	2.20 ± 0.47	2.73 ± 0.41	2.96 ± 0.45	2.80 ± 0.43	2.63 ± 0.48
Divorced/widowed/separated	2.67 ± 0.27	2.63 ± 0.32	2.46 ± 0.75	2.52 ± 0.28	2.89 ± 0.40	2.67 ± 0.56	2.88 ± 0.33
F-value (*Sig.*)	0.11 ($p = 0.90$)	0.48 ($p = 0.62$)	0.58 ($p = 0.56$)	0.51 ($p = 0.60$)	0.22 ($p = 0.80$)	0.14 ($p = 0.87$)	1.29 ($p = 0.28$)
Level of nursing education							
Vocational degree	2.62 ± 0.31	2.58 ± 0.36	2.15 ± 0.45	2.71 ± 0.40	2.89 ± 0.41	2.73 ± 0.44	2.64 ± 0.46
Diploma	2.67 ± 0.28	2.68 ± 0.36	2.17 ± 0.43	2.69 ± 0.37	2.99 ± 0.40	2.85 ± 0.33	2.57 ± 0.44
Bachelor degree	2.85 ± 0.66	2.70 ± 0.74	2.66 ± 0.71	2.90 ± 0.65	3.11 ± 0.73	2.87 ± 0.70	2.84 ± 0.70
F-value (*Sig.*)	0.55 ($p = 0.59$)[a]	0.90 ($p = 0.43$)[a]	1.62 ($p = 0.23$)[a]	0.36 ($p = 0.70$)[a]	0.78 ($p = 0.48$)[a]	1.13 ($p = 0.35$)[a]	1.13 ($p = 0.33$)
Working experience in *Puskesmas*							
< 1 years	2.58 ± 0.22	2.67 ± 0.30	2.34 ± 0.35	2.44 ± 0.34	2.71 ± 0.13	2.69 ± 0.23	2.59 ± 0.23
1–5 years	2.70 ± 0.28	2.79 ± 0.39	2.08 ± 0.39	2.73 ± 0.42	3.02 ± 0.38	2.98 ± 0.36	2.50 ± 0.41
6–10 years	2.73± 0.28	2.69 ± 0.35	2.24 ± 0.44	2.68 ± 0.44	3.14 ± 0.37	2.84 ± 0.18	2.72 ± 0.47
> 10 years	2.64 ± 0.37	2.56 ± 0.41	2.21 ± 0.52	2.74 ± 0.40	2.91 ± 0.47	2.73 ± 0.47	2.64 ± 0.50
F-value (*Sig.*)	0.49 ($p = 0.69$)	1.93 ($p = 0.13$)	0.61 ($p = 0.61$)	1.00 ($p = 0.40$)	6.38 ($p = 0.00$)[a]	2.59 ($p = 0.08$)[a]	0.71 ($p = 0.55$)
Health promotion training/courses							
Ever	2.68 ± 0.32	2.73 ± 0.38	2.26 ± 0.42	2.73 ± 0.35	2.91 ± 0.47	2.82 ± 0.45	2.57 ± 0.44

Never	2.65 ± 0.34	2.59 ± 0.40	2.17 ± 0.50	2.71 ± 0.43	2.97 ± 0.43	2.78 ± 0.40	2.64 ± 0.48
t-value (*Sig.*)	0.44 (p = 0.66)	1.70 (p = 0.92)	0.86 (p = 0.39)	0.28 (p = 0.78)	-0.58 (p = 0.57)	0.47 (p = 0.64)	-0.64 (p = 0.52)
Employment status							
Permanent	2.67 ± 0.34	2.63 ± 0.40	2.20 ± 0.49	2.74 ± 0.41	2.97 ± 0.44	2.80 ± 0.42	2.63 ± 0.48
Temporary	2.53± 0.14	2.65 ± 0.29	2.19 ± 0.13	2.35 ± 0.15	2.69 ± 0.13	2.72 ± 0.26	2.53 ± 0.12
t-value (*Sig.*)	1.02 (p = 0.31)	0.01 (p = 0.91)	0.13 (p = 0.90)	2.29 (p = 0.02)	4.03 (p = 0.00)	0.42 (p = 0.67)	1.42 (p = 0.17)
Income (per month)							
< 1,500,000 IDR	2.51 ± 0.15	2.62 ± 0.31	2.20 ± 0.14	2.31 ± 0.12	2.69 ± 0.14	2.67 ± 0.25	2.50 ± 0.13
1,500,000 to 3,000,000 IDR	2.61 ± 0.29	2.61 ± 0.35	2.16 ± 0.46	2.64 ± 0.39	2.92 ± 0.38	2.75 ± 0.38	2.52 ± 0.43
> 3,000,000 IDR	2.74 ± 0.38	2.66 ± 0.46	2.25 ± 0.51	2.85 ± 0.40	3.03 ± 0.51	2.86 ± 0.46	2.76 ± 0.51
F-value (*Sig.*)	2.65 (p = 0.08)	0.19 (p = 0.83)	0.44 (p = 0.65)	6.37 (p = 0.00)	6.05 (p = 0.01)[a]	1.05 (p = 0.36)	4.00 (p = 0.03)[a]
Living arrangement							
Extended family	2.52 ± 0.12	2.55 ± 0.27	2.08 ± 0.11	2.49 ± 0.20	2.87 ± 0.34	2.78 ± 0.17	2.28 ± 0.43
Nuclear family	2.67 ± 0.34	2.65 ± 0.41	2.20 ± 0.49	2.73 ± 0.42	2.96 ± 0.44	2.81 ± 0.43	2.65 ± 0.47
Alone	2.50 ± 0.25	2.42 ± 0.28	2.22 ± 0.45	2.61 ± 0.27	2.89 ± 0.45	2.45 ± 0.26	2.38 ± 0.20
F-value (*Sig.*)	0.99 (p = 0.38)	0.75 (p = 0.48)	0.16 (p = 0.85)	0.95 (p = 0.39)	0.15 (p = 0.86)	1.48 (p = 0.23)	2.06 (p = 0.13)
General health status							
Excellent	2.80 ± 0.37	2.88 ± 0.47	2.27 ± 0.44	2.91 ± 0.51	3.10 ± 0.47	2.85 ± 0.42	2.76 ± 0.49
Good	2.65 ± 0.30	2.58 ± 0.35	2.18 ± 0.49	2.69 ± 0.38	2.94 ± 0.41	2.83 ± 0.38	2.60 ± 0.45
Fair	2.59 ± 0.34	2.62 ± 0.36	2.24 ± 0.46	2.56 ± 0.32	2.90 ± 0.41	2.60 ± 0.47	2.59 ± 0.47
Poor	1.94	1.89	1.75	2.67	1.78	1.89	1.63
F-value (*Sig.*)	3.15 (p = 0.03)	4.19 (p = 0.01)	0.48 (p = 0.70)	2.15 (p = 0.10)	3.46 (p = 0.02)	3.16 (p = 0.03)	2.12 (p = 0.10)
Body Mass Index							
Underweight	2.56 ± 0.19	2.51 ± 0.25	1.83 ± 0.36	2.62 ± 0.51	3.07 ± 0.35	2.96 ± 0.26	2.28 ± 0.55
Normal	2.70 ± 0.32	2.67 ± 0.42	2.20 ± 0.47	2.77 ± 0.39	2.97 ± 0.43	2.84 ± 0.41	2.68 ± 0.44
Overweight	2.61 ± 0.38	2.58 ± 0.37	2.26 ± 0.51	2.61 ± 0.42	2.89 ± 0.48	2.68 ± 0.45	2.59 ± 0.52
Obese	2.64 ± 0.11	2.67 ± 0.47	2.19 ± 0.08	2.84 ± 0.78	3.00 ± 0.31	2.78 ± 0.16	2.26 ± 0.18
F-value (*Sig.*)	0.65 (p = 0.59)	0.48 (p = 0.69)	1.18 (p = 0.32)	1.17 (p = 0.33)	0.37 (p = 0.77)	1.20 (p = 0.31)	1.67 (p = 0.18)
Smoking habit							
Yes	2.83 ± 0.33	2.81 ± 0.39	2.38 ± 0.25	2.82 ± 0.76	3.11 ± 0.19	2.85 ± 0.13	3.00 ± 0.57
No	2.65 ± 0.33	2.62 ± 0.40	2.19 ± 0.48	2.71 ± 0.40	2.95 ± 0.44	2.79 ± 0.42	2.61 ± 0.47
t-value (*Sig.*)	0.92 (p = 0.36)	0.80 (p = 0.42)	0.67 (p = 0.51)	0.45 (p = 0.66)	0.64 (p = 0.53)	0.25 (p = 0.80)	1.44 (p = 0.15)

[a] Asymptotically F distributed: the selected F-value when the homogeneity of variance assumption was violated.

Qualitative Strand

Participants' Socio-Demographics Characteristics

In total, eight nurses participated in the telephone interviews, dominated by females (*N*= 7, 87.5%), reflecting the gender ratio of the total study population. Aged across three different categories that ranged from 20 to 50 years old, all of the participants were married. Their highest level of nursing education reflected all groups, including vocational (*N*= 2, 25%), diploma (N= 3, 37.5%) and bachelor degree (*N*= 3, 37.5%), with working experience falling between two groups, that is, one to five years (*N*= 3, 37.5%) and more than 10 years (*N*= 5, 62.5%). All of the participants were the permanent employees. Fifty per cent of them (*N*= 4) had been involved in training specific to HP. Table 5 illustrates the participants' complete socio-demographic characteristics.

Table 5 Telephone Interview Participants' Socio-Demographic Characteristics (*N* = 8)

Characteristics	Number	Percentage
Gender		
Male	1	12.5%
Female	7	87.5%
Age		
≤ 20 years	-	-
21–30 years	1	12.5%
31–40 years	2	25%
41–50 years	5	62.5%
> 50 years	-	-
Marital status		
Single	-	-
Married	8	100%
Divorced/widowed/separated	-	-
Living arrangement		
Extended family	1	12.5%
Nuclear family	7	87.5%
Alone	-	-
Education level		
Vocational degree or technical nurses	2	25%
Diploma	3	37.5%
Bachelor degree	3	37.5%
Working experience in *Puskesmas*		
< 1 years	-	-
1–5 years	3	37.5%
6–10 years	-	-
> 10 years	5	62.5%
Health promotion training/courses		
Ever	4	50%
Never	4	50%

Employment status		
Permanent	8	100%
Temporary	-	-
Income (per month)		
< 1,500,000 IDR	-	-
1,500,000 to 3,000,000 IDR	7	87.5%
> 3,000,000 IDR	1	12.5%
General health status		
Excellent	1	12.5%
Good	6	75%
Fair	1	12.5%
Poor	-	-
Body Mass Index		
Underweight	1	12.5%
Normal	4	50%
Overweight	3	37.5%
Obese	-	-
Smoking habit		
Yes	-	-
No	8	100%

The following section presents themes identified when analysing the data generated from interviewing the eight participants. In general, themes were consistent across participants regardless of their socio-demographic attributes.

Themes

The data were collected and transcribed verbatim by the primary researcher, who has prior knowledge and experiences as an intern and a registered nurse working in community settings. All transcription was performed by the primary researcher to capture a more thorough understanding of the data and assist in the early stage of the analysis. In addition to this, having worked independently with a professional translator, the primary researcher translated the data from *Bahasa* into English. Then, the transcripts were analysed manually by the primary researcher, involving a discussion with the supervisors.

The thematic analysis in this study employed a step-by-step approach by Braun and Clarke (2006) to find repeated patterns of meaning or themes. Chapter Three's section on qualitative data analysis explains the thematic analysis procedures undertaken in this study. Participants were invited to confirm the authenticity of the interview transcripts and interpretation through a member-checking procedure. This was conducted by emailing the soft copy to one of the research assistants, who then delivered the hard

copy to each nurse who had been interviewed. Four participants provided their feedback and stated their agreement with the findings; while the others declined to give their feedback. Finally, six key themes were identified in this study; 'personal versus professional identity', 'self-directed actions', 'being on the front line', 'endeavours to achieve a healthier community', 'role' and 'being competent in HP'. The theme 'role' constituted three subthemes, including 'being imperfect role models', 'variation in role' and 'rewarding role'. In describing themes participants are referred to by letter, R1-R8 while L refers to the line of the transcript the quote is taken from.

Personal versus professional identity

> A healthy lifestyle covers things we do to stay healthy and keep our environment clean by consuming nutritious food, not smoking and exercising regularly (R1, L1).

When expressing her definition of healthy lifestyles, participant R1 chose the word, 'we' to describe herself, instead of the word 'I'. This seems to suggest that in defining a healthy lifestyle as an ideal concept by integrating positive lifestyles into our lives (e.g., healthy eating, regular exercising and not smoking), she preferred to present herself as a person who belongs to the nursing profession, as a collective entity rather than an individual person. Similarly, participant R5, a nurse with more than 10 years' working experience in *Puskesmas*, also used 'we' and 'ourselves' in this context.

> A healthy lifestyle is a set of behaviours that is exhibited to achieve a healthy life in which we plan to get ourselves to do things in order to maintain or improve health, including keeping the environment clean, healthy diet and not smoking (R5, L1).

It appears that most of the participants tried to answer the given question based on a normative standard according to their professional status and role (i.e., nurses were working in community health centres with favourable attitudes, values, beliefs, experiences, ideals and principles) in relation to the concept being discussed. They drew a distancing position between their identity as an individual person and as being a part of a larger professional group.

Self-directed actions

Healthy lifestyles were seen as a set of self-directed actions to achieve a healthy or healthier life by the majority of the participants.

> A healthy lifestyle is a set of behaviours that is exhibited to achieve a healthy life in which we plan to get ourselves to do things in order to maintain or improve health, including keeping the environment clean, healthy diet and not smoking (R5, L1).

> A healthy lifestyle is living according to the standards of living a healthy life, like how to maintain our health and prevent ourselves from getting sick. The activities include eating regularly, balanced sleeping and resting patterns and exercising (R7, L1-2).

It seems that participant R7 considered implementing a healthy lifestyle as everyday activities that we have to do according to certain standards. There were standards that people could follow to promote their health and to prevent diseases and to achieve positive health outcomes at every level (i.e., individual to population as a whole). All of the participants regarded a healthy life as a state of balance between a person's physical (e.g., adopting healthy eating, getting enough exercising, not smoking, getting balanced sleeping-resting pattern), mental (e.g., recreation), social (e.g., maintaining meaningful relationship with others) and spiritual aspects (e.g., connecting with God). Participant R8 described the following:

> A healthy lifestyle is a set of behaviours that leads to improvement in the quality of health. They are daily activities done to gain personal, environmental and communal health. It covers all activities, such as eating, sleeping, recreation, as well as our relationship with family members, people and God. It includes normal and balanced physical and spiritual health (R8, L1-3).

Being on the 'front line'

> *Puskesmas* is now the centre of HP … in *Pustu*, we are kind of the only familiar faces (R8, L29 and L36).

> As a nurse in *Puskesmas*, because we are on the front line, the most important things are promotion and prevention so we can hopefully prevent people from getting sick (R5, L23).

The *Puskesmas* was viewed as the centre of HP activities, in which nurses were believed to hold the most important and influential position as the front-liner. Nurses

working in *Puskesmas* have a prominent duty to carry out HP activities in their daily practice. Being put on the 'front line', the nurses are responsible to safeguard the health of the general population primarily by promoting healthy lifestyles and preventing people from getting sick.

> We are the officers, we are the messengers (R7, L37).

Participant R7 equated nurses as 'the messengers', employed by the government to carry HP 'messages' to people. As front-line staff, nurses in *Puskesmas* bridge the gap between government policy and its target population.

Endeavours to achieve a healthier community

All of the participants defined HP as any activities performed by the nurses to improve clients' health outcomes, operating across all levels of prevention, including primary (promoting health and providing specific health protection against risk factors of health problems), secondary (screening and delivering early detection, treatment and follow-up), and tertiary prevention (giving rehabilitation services).

> There are plenty of advantages, such as preventing diseases, reducing morbidity rate, accelerating recovery and preventing disease transmission (R1, L12).

> Clients will benefit from the received knowledge about healthy lifestyles, which is then expected to influence their behaviour. The more they understand, the more they will be able to implement a healthy lifestyle. The ultimate goals are reducing morbidity rate and lengthen life expectancy (R2, L17-19).

The nurses believed that by increasing people's health literacy, they would be more knowledgeable and more aware of how important it is to be responsible for their own health. Improved literacy would eventually encourage people to take appropriate actions (i.e., modifying their behaviours and implementing healthy lifestyles into their own lives), leading to a healthier community.

Having believed in the benefits of promoting health, the nurses also expressed their concern for the fact that changing people's behaviours was not a simple or straightforward activity. It was an endeavour for the community that requires the nurses to take appropriate strategies dealing with the challenges that they encounter. There

were hindrances to promote the health of the population, for example, lack of clients' motivation and knowledge, their negative attitudes towards healthy lifestyles and insufficient ability to fulfil their health-related needs.

> The challenge comes mostly from the client of HP practice. They lack motivation, knowledge and ability to implement healthy lifestyles in their daily life (R2, L20-21).

> People in a community have different attitudes towards an issue. When we tell them about the dangers of smoking, they go 'Shut down the companies first, so we won't be able to smoke.' Yes, there are many challenges encountered (R7, L31-33).

Many of the nurses interviewed expressed how challenging it was to deal with problems when providing HP programmes in communities. Working overtime to sync the HP time with the clients' schedule in the community level was very common among nurses, putting at stake their personal time. In this case, finding the appropriate time was not the only problematic issue. The nurses had to think strategically about how to gather the community in one place (e.g., working in partnership with the *kelian* or head of *banjar* and inserting the HP activity into the community's regular meeting, *sangkepan banjar*), so that the HP messages could be delivered to its target audiences. *Banjar* is a basic building block of the Balinese society, which also can be defined as a community centre for a designated number of families to run social activities and ceremonies.

> At the family level, the challenge is that when we visit the house, the family isn't always at home. The target is missed. At the community level, it is hard to get them all together so we can give counselling. To solve the challenge at the family level, we usually pay a visit after working hours. Nurses work outside their office hours in this way, a home visit. To get the community together, we work in partnership with *kelian banjar*. We sync the time of counselling with the schedule of *sangkepan banjar*, which is usually held in the evening (R3, L23-29).

Role

Being imperfect role models

A number of participants perceived themselves as good role models in living healthy lifestyles, as exemplars to be followed by the community. This role was believed by

participant R2 to be an integral component of her job as a nurse working in the *Puskesmas*, which was mainly tasked to promote healthy lifestyles.

> My role in the HP is as role model … As nurses, we should practice a healthy lifestyle in the first place so the community will follow us afterwards. It is not only about giving counselling, we ourselves have to set examples for the community (R2, L12 and L14-15).
>
> It is my responsibility as the promoter and role model for a healthy life … My role is to be a good role model (R8, L9, L12).

Significantly, there was a contradiction in what the participants expressed about their role as ideal models in living healthy lifestyles and their actual personal HP practice. Although the participants described themselves as good role models for the community, it appears that they acknowledged their personal limitations in practicing healthy lifestyles in their own lives.

> Generally, there is no significant impending factor. But occasionally, as I am already married and consequently I have to do the household work. Working as a medical personnel at a *Puskesmas* does not leave you enough time to exercise. Besides, I am not motivated enough to exercise regularly. I have too many activities to do and when I get home, I am usually too tired (R2, L6-9).
>
> Facilities and the infrastructure. Simple things like washing hands is easy. But providing nutritious food … it needs money (R4, L9-12).

Being an imperfect role model seems to suggest that the nurses also considered themselves a part of the community, a human being with flaws. Participant R2 made a case for how sometimes she struggled to manage her time for professional and domestic duties with the need to do regular exercise. There were two factors, internal (e.g., time, motivation, commitment) and external (e.g., media, financial, environment, facilities and infrastructures), which were believed to inhibit people's ability to implement healthy lifestyles into their lives. Another participant, R5, expressed the barriers that he encountered to adopt a healthy lifestyle into his own life, which seems to be fairly similar to hindrances faced by people in the general population.

> There are many obstacles met, internally, externally. The internal factor: unavailability of adequate time … We also tend to be resistant, the internal factor of laziness, and we do not have much time to exercise. The external factors are many: the media imprint the image of fast food through advertisements and we have a tendency to be drawn to it. Our environment also

> has a lot of influence, such as the social life and lifestyles surrounding us (R5, L6-7 and L9-11).

Variation in role

The nurses' accounts of their role in HP in *Puskesmas* varied. In general, the nurses perceived their role to include being both health promoters and role models in living healthy lifestyles. It appears that they regarded these roles as equally important and understandably closely related.

> My role in the HP is as role model … Obviously it is the first to do as we work in *Puskesmas*, in which one of the responsibilities is to promote health. As nurses, we should practice a healthy lifestyle in the first place so the community will follow us afterwards. It is not only about giving counselling, we ourselves have to set examples for the community (R2, L12-15).

Other participants expressed their roles exclusively as health practitioners giving healthcare services to clients at all levels, including individuals, families and communities. The interventions varied according to the targeted clients, such as in-house services that were usually provided to individual clients through outpatient or inpatient services, and the outreach HP activities given to the larger target groups, including families (e.g., home visits), specific groups (e.g., elderly) and communities. Health promotion activities operated at the community level were usually delivered by inserting the counselling or the socialisation programme into a regular meeting held in a community centre, *banjar*.

Participant R8 added a discussion pertaining to an assessment process she undertook before commencing a HP activity in community level by conducting a home visit census to identify the health problems encountered by the community. Following the assessment, nurses were responsible for fostering community participation by informing them about the problems and improving their awareness towards the significance of the issues. These activities were carried out to empower the community in doing self-help activities by working in collaboration with *Puskesmas*.

> For HP to individuals, I usually take part in outpatient care in the community health centres. For the families, when they have medical problems, we usually pay a visit. For the community level, we give counselling at the *sangkepan banjar* (R3, L9-11).

> My role is to be a good role model. I also provide counselling for individuals and groups. Besides, I also do home visits for the data gathering/census. During this assessment procedure, we immediately provide motivation for those who do not commit to a healthy lifestyle. After gathering the data, we invite people in the community, let them know their health-related issues, and work in collaboration with the community to solve their problems (R8, L12-16).

Nurses' HP practice in *Puskesmas* encompassed a wide range of activities, including encouraging people to adopt healthy lifestyles to maintain or improve their health quality, providing disease prevention services and delivering curative services for clients who were already sick. Within these roles, HP and prevention were considered the most prominent activities undertaken by the health practitioners working in *Puskesmas*.

> Nurses at the *Puskesmas* have many roles, such as to motivate the community and providing promotion, preventive and curative services. As nurses in *Puskesmas*, because we are on the front line, the most important things are promotion and prevention so we can hopefully prevent people from getting sick (R5, L22-23).

While the majority of the nurses were part of a common pattern regarding HP and disease prevention as the primary focus of their activities in *Puskesmas*, an interesting comment was given by one participant. Participant R6 suggested that the nurse's role in *Puskesmas* was mainly in the curative domain. Health promotion, in the form of health education or counselling, seemed to be considered an add-on activity in the *Puskesmas*. Prevention modalities were predominantly carried out during community outreach services, such as *Posyandu*.

> People are suffering from illnesses and we tend to focus more on curing rather than preventing the diseases. We should provide health education based on the medical diagnosis of the patients. Immediately after the treatment, we can give counselling to them … In *Posyandu,* we should be more into prevention. In *Puskesmas*, the curative treatment should be followed by health education (R6, L16-18 and L20-21).

Rewarding role

All of the nurses indicated high job satisfaction and regarded their profession as rewarding. Being able to contribute and to positively influence clients' health outcomes were considered the most satisfying parts of working as nurses in *Puskesmas*. Society

expected nurses to be resourceful and knowledgeable about 'all' things, even for areas beyond their capacities.

> The most rewarding feeling is to be able to help people. I feel that I am respected. People are satisfied with my service. People ask for my advice. When they hear some information outside, they come to me for further explanation. They think we, nurses, know all about the things they ask. We always try to give answers and be helpful because doctors are rarely assigned in *Pustu* (R8, L37-43).

Being recognised by the community for their status as a nurse working in *Puskesmas* was also viewed as the most rewarding moment for the nurses. Working in *Puskesmas* that closely aligned with the community also offered an opportunity for the nurses to learn about and from the society. It seems that for participant R7, a sense of professional dedication was at the heart of the nurses' job satisfaction.

> The most rewarding moment is when we visit the community. Many people will recognise us. We can learn more about the society, such as their economic status (R4, L34-35).

> There is pride. There are challenges. That is how we work. Let's just do our jobs and responsibilities. There is always satisfaction. It is when we feel that we are respected. If we respect our patients, they will respect us as well. It is rewarding to give service to the community (R7, L45-52).

Although overall participants expressed that being able to help their clients was the most rewarding moment as nurses working *Puskesmas*, participant R6, a senior nurse with many years of experience, added that one of her sources of job satisfaction included rewards from the government in the form of financial rewards and certificates.

> It is rewarding that we are able to help people. We are glad to see that the person is healthy and understands about health. There are also rewards from the government for us, such as for working for a period of 10 years, 20 years … sometimes it is given in the form of a financial reward. However, for this period I have not received any. We can get a certificate, plus the money (R6, L37-42).

Being competent in health promotion

> There is an ability to communicate our messages to clients and the individual insights both of the nurses and the patients themselves into the medical problems they are encountering. Health promotion training of the nurses also plays an important role. Another significant variable is nurse educational level (R1, L17-19).

> It is rather difficult to accept the concept of a healthy lifestyle when the method of giving counselling is not in accordance with the dynamics of the family and society, regardless of similarity in content delivered … The point is nurses should have tips for promoting healthiness. In addition, the level of knowledge and the sense of responsibility as well as devotion of the nurses also plays role (R3, L32 and L35-36).

The participants appeared to suggest that mastering knowledge and skills regarding HP served as the most influential factors that determined nurses' abilities to carry out their professional HP practice. These factors included skills in communication and HP strategies. Such knowledge and skills could be gained through formal education (e.g., pursuing higher nursing degree, participating in seminars or training in HP) or informal education (e.g., updating knowledge by reading or from the media) and experiences from practice, which was closely linked with the nurses' working experiences. Added to these factors, nurses' personal attributes, such as their attitudes and commitment to HP, were also believed to play a prominent role in determining their proficiency in HP practice.

> Skills gained arise from practice. The more skilled a person, the more working hours, the more confident is the nurse to give counselling to the community. So is the education factor. The more knowledgeable the nurse is, the more confident he is. Formally, knowledge can be gained from a vocational degree, diploma degree, bachelor degree, post-graduate degree and so on. But informally, it is important that we do lots of reading and look for information. Keep learning (R5, L54-59).

Another contributing factor was the organisational context where the nurses had been employed. It was stressed by participant R8 how important it was for her practice to have a supportive working environment and colleagues for sharing her thoughts about work-related matters and to learn from the peers.

> The obvious ones are the educational background, experiences, working environment, and working partners … Healthcare providers in *Pustu* are limited, just two people. There is a limited option for a knowledge-sharing partner (R8, L44 and L46-47).

Summary of Chapter

This chapter has presented the findings of the data generated from quantitative and qualitative strands. The results were reported in text, graphs and narratives. This section covered the information pertaining to the instrument reliability test results, which concluded that the HPLP-II Indonesian version has adequate psychometric properties. From the total 101 returned questionnaires (response rate of 90.99%), 100 questionnaires with complete information were included in the quantitative data analysis. The HPLP-II scores across all categories ranged from 2.20 (PA) to 2.90 (SG). Parametric statistics were employed to identify any significant differences in participants' HPLs (HPLP-II scores) according to their socio-demographic factors. It was found that based on particular socio-demographic characteristics of the participants, the means of several HPLP-II subscales were different significantly, in SG (working experience, employment status, income, general health status), Nu (employment status, income), SM (income) and in total scale, HR and IR (general health status).

Six key themes were yielded by analysing the telephone interview data that had been reported. These themes were the product of the thematic analysis and included how the nurses view, experience and integrate their personal and professional HP practice. The results seem to suggest that there was a connection between the *Puskesmas* nurses' personal and professional HP practice.

The following chapter will discuss the major findings of this study by integrating, combining or linking the QUAN and QUAL inferences. This is followed by a discussion of their significance to clinical practice. Recommendations for further investigation will be put forward.

Chapter Five—Discussion

Introduction

The final chapter of this report presents discussion and interpretations, and importantly brings together the study's data. The literature review was used to place the findings within the context of what is already known in relation to the topic. The major points are summarised by integrating inferences generated from the QUAN and QUAL strands. This has been followed by highlighting the study's implications together with its limitations and recommendations for further relevant studies, practice and education. This section also provides information pertaining to the strategy undertaken to disseminate the outcomes of the project.

Major Findings

There were three major conclusions that can be drawn from this study. First, the *Puskesmas* nurses showed relatively positive health-promoting lifestyle (HPL) pattern as indicated by their sufficient health-promoting lifestyle profile II (HPLP-II) scores in almost all domains, except in physical activity (PA) subscale. The second conclusion was that there were significant differences found in several HPLP-II subscales based on the participants' particular socio-demographic characteristics. Finally, it can be concluded that there was a connection between the *Puskesmas* nurses' personal and professional HP practice, which was predominantly expressed in the form of their role as health promoters and models in living healthy lifestyles. Added to the three major conclusions, there were two noteworthy findings that can be highlighted in this study, namely, the results of the cultural adaptation and psychometric properties evaluation of the Indonesian HPLP-II, and the participants' willingness to be involved in this study.

Health Promoting Lifestyle Patterns of Nurses Working in *Puskesmas*

In general, the participants in this study showed positive HPL patterns, except in the PA domain, which scored below the standard value (2.50). The highest score was found in the spiritual domain (SG) domain followed by interpersonal relations (IR), nutrition (Nu), health responsibility (HR), stress management (SM) and PA, consecutively. This implies that the nurses in this study were more likely to improve and maintain their health by maintaining their spiritual wellness/balance rather than through utilising communication to achieve a sense of intimacy and closeness with others (IR), selecting and consuming proper foods (Nu), being actively responsible for their own well-being (HR), managing their stress (SM) or regularly participating in light to vigorous PA. These findings are very much similar to those found in a study by Hensel (2011) in a sample of 131 rural hospital RNs and in a study by McElligott et al. (2009) concerning 149 acute care nurses, which concluded that SG and IR were the most frequent healthy lifestyles being practised by the nurses. The least domain of healthy lifestyles being practised by the *Puskesmas* nurses in the present study was PA; this is consistent with the two earlier studies (Hensel 2011; McElligott et al. 2009).

Consistent with findings from the previous studies investigating nurses' personal HP practice (Bourne et al. 2010; Malik, Blake & Batt 2011; Zapka et al. 2009), in addition to a low PA score, 31% of the participants in the current study were found to be overweight and 2% were obese; therefore, together they pose serious concerns regarding the nurses' health practice. In actual practice, there has been a one-hour weekly wellness programme in every *Puskesmas* aimed at maintaining the employees' fitness level. Nevertheless, findings yielded in the present study may indicate the necessity to evaluate the effectiveness of such programmes and seek out more appropriate strategies to support the employees, especially the nurses, to comprehensively maintain their health status and improve their wellness by integrating healthy lifestyles into their own lives, particularly in the weaker area of PA.

Linking the findings of the nurses' HPL patterns with the data generated from the telephone interview offers a further insight to elicit the reason why the PA subscale scored the least among the other subscales of the HPLP-II. It was revealed from

interviewing the participants that although they understood and believed in the benefits of engaging in healthy lives, exercise was repeatedly used to describe barriers they encountered for living personal healthy lifestyles, which may indicate the centrality of this concern among the participants. More specifically, the participants mentioned lack of time (balancing between time for work, family care responsibilities and exercise) and motivation for exercising as the most frequently cited reasons for not being able to adopt the recommended PA level into their everyday lives.

These findings suggest that while the nurses were generally aware of the need to adopt healthy lifestyles into their lives or perceived the benefits of healthy lifestyles; this knowledge was not always translated into practice. This was due to higher perceived barriers and lack of self-efficacy, and was sometimes challenged by their effort to balance their time for exercising amid their routine responsibilities at work and at home. The challenge of balancing time is defined in the revised Pender's HPM as '…competing demands', or '…alternative behaviours over which individuals have a relatively low level of control because of environmental contingencies, such as work or family care responsibilities' (Pender, Murdaugh & Parsons 2006, p. 49). Competing demands will directly determine the likelihood of the recommended behaviours to occur or serve as an intermediate factor to influence someone's commitment to adopt such behaviours (Pender, Murdaugh & Parsons 2006).

Findings related to PA in this study confirm those in the current literature, which suggests that although believing in positive benefits of a particular health behaviour is important, it is generally not powerful enough to influence someone adopting the desirable behaviour (Pender, Murdaugh & Parsons 2006). The authors further argue that 'barriers', which consist of '…perceptions about the unavailability, inconvenience, expense, difficulty, or time-consuming nature of a particular action' (Pender, Murdaugh & Parsons 2006, p. 47), often emerge as hindrances and excuses for not implementing the recommended behaviours. Hindrances to pursuing health behaviours will be even worse if someone has strong perceived barriers that are further aggravated by her/his lower self-efficacy, '…the judgment of personal capability to organise and carry out a particular course of action' (Pender, Murdaugh & Parsons 2006, p. 47). Self-efficacy serves as a prerequisite condition for someone's decision to pursue health behaviours, both by directly affecting someone's efficacy expectations and indirectly through

influencing someone's perceived barriers and commitment to act (Pender, Murdaugh & Parsons 2006). In fact, previous studies, especially those guided by Pender's HPM, have shown that perceived barriers and self-efficacy, as well as social support, served as the consistent predictors of people's health behaviours (Pender, Murdaugh & Parsons 2006).

Health-Promoting Lifestyle Patterns According to Socio-Demographic Variables

Based on particular socio-demographic characteristics, the *Puskesmas* nurses' HPLP-II scores in several domains were significantly different, including in the SG subscale based on the participants' working experience, employment status, income and general health status; the Nu domain according to participants' employment status and income; the SM subscale based on their income status; and in the total scale, HR and IR according to participants' general health status. It is obvious from these results that SG consistently appeared in all domains with significant findings. Parallel with this finding, the telephone interview's participants confirmed that spirituality is an integral component of healthy lifestyles and serves as one of the prerequisites to achieve a balanced state of life. Nevertheless, to better understand the exact nature of these results, including the link between SG and personal HP practice, and the meaning of spirituality from the participants' perspective, further exploration in future studies is recommended.

Analysis on the employment status and monthly income variables resulted in significant differences in the participants' Nu score, where those who were temporary employees and had lower monthly income were found to have lower Nu scores. To obtain more in-depth understanding, the telephone interview's data can be linked with this finding, which seems to suggest that a financial constraint was perceived by the participants as a hindrance to implement healthy lifestyles into their personal lives. As articulated by participant R5, '…providing nutritious food is worth noted. It needs money' (L11-12). To be able to consume healthy foods was not an effortless daily practice; it required extra time to prepare the nutritious meals and was relatively costlier than having fast foods. The effect of this is arguably far more burdensome for those in less favourable socio-economic conditions.

Bourne et al. (2010) also revealed that health practitioners with lower socio-economic status (lower income and working status) tend to adopt more unhealthy lifestyles compared with their fellows in better socio-demographic conditions. Similarly, Malik, Blake and Batt (2011) found that working experience, employment status, monthly income and perceived general health status contributed to healthy lifestyle pattern differences between registered and new nurses. Perceived health status and working period were also revealed to be significantly correlated with Taiwanese nurses' personal healthy lifestyles (Yao 1997 cited in Carlson & Warne 2007). Likewise, Tucker et al. (2012) also concluded that the length of working experience was significantly associated with HPL scores among their study's participants.

No significant differences in the HPLP-II scores based on the participants' socio-demographic variables (gender, age, marital status, living arrangement, education level, HP training, BMI and smoking status) were found. The fact that there were no significant differences in the HPLP-II scores between participants who had been involved in specific HP training addressing *Puskesmas* nurses with those who did not, and between nurses with higher versus lower levels of education leads to questioning of the nature and effectiveness of the existing HP training and the nursing educational system. In line with the findings yielded from the questionnaire, the telephone interview's participants expressed similar responses to the given questions. This suggests that how the *Puskesmas* nurses viewed and perceived their personal HP practice was not influenced by their socio-demographic attributes.

In general, findings in the current study seem to indicate that nurses are sufficiently educated and trained to be able to assist their clients living a healthy life. This was also reflected in how fluent and to what level of detail the nurses expressed their role as health promoters in *Puskesmas*. Unfortunately, it appears that very limited information has been provided for the nurses on how to integrate healthy lifestyles into their own lives, promoting their own self-care practice. This concern also has been highlighted in the existing literature (Hensel 2011; McElligott et al. 2009).

Connection of Personal and Professional Health Promotion Practice

In relation to a specific discussion of how the nurses in the present study view, experience and integrate their personal and professional HP practice, their responses appeared to indicate a connection between the two. This was predominantly expressed in the form of their role as health promoters and models in living healthy lifestyles.

By combining, integrating and linking the data yielded from the QUAL and QUAN strands to understand the connection between the *Puskesmas* nurses' personal and professional HP practice, several noticeable features can be identified, namely, the *Puskesmas* nurses understood the importance of living a healthy lifestyle and demonstrated sufficient scores in their personal HPL patterns. They also believed in their contribution as the front-line, that is, health professionals working in the PHC context with numerous tasks operating across all levels of prevention including primary (promoting health and providing specific health protection against risk factors of health problems), secondary (screening and delivering early detection, treatment and follow-up) and tertiary prevention (giving rehabilitation services). This again reflects the *Puskesmas*' function to provide comprehensive or all levels and integrated services to the target community or individual clients within its working area (Ministry of Health Republic of Indonesia 2004; Trihono 2005).

Although one interviewee saw her role as being oriented more in a treatment/curative domain, the majority of the nurses considered HP as their primary duty as nurses working in *Puskesmas*. In fact, they believed that their role as health promoters had positive effects on their clients' health outcomes, which was expressed as endeavours to achieve a healthier community. The participants also perceived that nurses had to be role models, examples of living healthy lifestyles to be followed by their clients. These findings were congruent with the 'health-promoting *Puskesmas*' policy endorsed by the government to assign *Puskesmas* as the centre of HP, which implies that the *Puskesmas* nurses should be able to promote HPLs to their clients and simultaneously integrate healthy lifestyles into their own lives or act as role models (Ministry of Health Republic of Indonesia 2007).

Interestingly, although the *Puskesmas* nurses viewed themselves as models in living healthy lifestyles, they did not consider being ideal role models as one of the contributing factors that influenced their ability to perform their professional HP practices. This may suggest that when the participants believed that integrating healthy lifestyles into their own lives did have implications for their role as nurses working in *Puskesmas*, perhaps it did not operate in a salient or straightforward manner as overwhelmingly suggested by several previous studies (Esposito & Fitzpatrick 2011; Fair, Gulanick & Braun 2009; Radsma & Bottorff 2009; Slater et al. 2006; Zhu, Norman & While 2011). Another possible explanation of this finding might lie in the *Puskesmas* nurses' attempt to draw a distancing position, a boundary, between their identity as an individual person and as a part of a larger professional group.

The existing literature on professional identity in nursing (covering students, academia and practitioners) reveals that the term 'professional identity' has been closely linked or even used interchangeably with other concepts, such as professional self or self-concept, professionalism, perception of role, self-esteem, self-image and self-identification (Cowin et al. 2006; Fagermoen 1997; Gregg & Magilvy 2001; Hoeve, Jansen & Roodbol 2013; Öhlén & Segesten 1998). Therefore, it was challenging to provide a firm definition of professional identity and to differentiate it from other concepts. Hoeve, Jansen and Roodbol (2013), for instance, use 'self-concept' as an umbrella term that depicts a dual-aspect of 'self' posed by a nurse, including her/his 'professional self' and 'psychological/person self'; these authors closely link the concept of self-concept to professional identity.

One of the most frequently cited professional identity definition in the literature is that proposed by Fagermoen (1997, p. 435), which defines professional identity as:

> the nurse's conception of what it means to be and act as a nurse; that is, it represents her/his philosophy of nursing … more precisely, professional identity is defined as the values and beliefs held by the nurse that guide her/his thinking, actions and interaction with the patients.

The author further explains that to understand the process by which someone develops her/his professional identity, the concept of symbolic interactionism can be considered where, '…professional identity emerges through a process of self-formation in which

social interaction and self-reflection are basic processes' (Fagermoen 1997, p. 435). Hoeve, Jansen and Roodbol (2013) identify that several factors contribute to the shaping and development of nurses' professional identities and self-concepts. The factors include: public images of nurses, working environment (including interaction with peers) and work values, education and traditional socio-cultural values.

In reality, instead of functioning and evolving as a single and mutually exclusive entity, the personal and professional identities operate in an interrelated nature. That is, a nurse's personal identity serves as a prerequisite for developing her/his professional identity (Hermansen 1987 cited in Öhlén & Segesten 1998). Indeed, there are personal attributes together with interpersonal and socio-cultural dimensions inherently embedded in a nurse's professional identity (Öhlén & Segesten 1998). Thus, the *Puskesmas* nurses' attempt to set a clear boundary between their personal and professional identities, the two of which are relatively inseparable, might result in a blurred boundary expressed in the form of their ambivalent perception, an uncertainty towards their identity. It possibly explains the reason why the participants in the current study did not comfortably spell out that their personal HP pattern does contribute to their ability to perform their professional HP practice.

The identity expressed in the present study appears to further influence the way in which the nurses assumed their role in HP practice. As a collective entity (i.e., nurses working in *Puskesmas*), the participants expressed their positive attitudes, values, beliefs, experiences, ideals and principles in relation to healthy lifestyles and HP. As individuals, however, they seemed to view and define themselves as a part of the community, as a human being with flaws; thus, present as imperfect role models for their clients. In other words, the *Puskesmas* nurses were aware of their role as models in living healthy lifestyles but acknowledged their imperfection and were sometimes struggling to implement the recommended behaviours into their everyday lives or were not always able to transfer into actions what they recommended to their clients. Being imperfect role models was also expressed by Canadian nurses in Rush, Kee and Rice's study (2005). They described themselves and other nurses as health-promoting role models from a more humanistic or 'egalitarian' viewpoint, as opposed to the traditional perspective that views nurses as idealised or perfect role models (Rush, Kee & Rice 2005).

Potential Uses of the Culturally Adapted HPLP-II in an Indonesian Sample

The adapted HPLP-II questionnaire in this study showed overall adequate psychometric properties. The alpha coefficient of internal consistency for the total scale was 0.928 and for the subscales ranged from 0.683 to 0.830 (only the Nu scale had α value < 0.7). These results are reasonably comparable with values yielded from the original HPLP-II (total scale = 0.943 and for the subscales ranged from 0.793 to 0.872) (Walker, S.N. & Hill-Polerecky 1996). The Nu subscale was also found to have the lowest α (alpha) value in a psychometric validation test conducted by Meihan and Chung-Ngok (2011) in a sample of Taiwanese women. In addition, some studies also conclude that at least one of the Nu subscale's items had corrected item-total correlation value < 0.20 (Meihan & Chung-Ngok 2011; Pérez-Fortis et al. 2012; Pinar, Celik & Bahcecik 2009). It can be speculated that while nurses in the present study might be sufficiently knowledgeable about the recommended nutritional practice, perhaps not all of them were fully informed about more detailed information, such as standard serving sizes.

High Degree of Willingness to be Involved in the Research

The obtained response rate in the questionnaire-based data collection (90.99%) was much higher than what was estimated. Earlier studies conducted to address relevant topics (i.e., healthy behaviour or healthy lifestyles among nurses) showed lower response rates (Callaghan 1999; Callaghan, Ma & Fung 1997; Fair, Gulanick & Braun 2009; Hensel 2011; Malik, Blake & Batt 2011; McElligott et al. 2009; Tucker et al. 2010). Nevertheless, there is no agreed standard for an acceptable minimum response rate. Polit and Beck (2008) argue that a value greater than 65% is considered sufficient. Bowling (2005) sets a value of 75% as acceptable and above this value is considered good. The literature suggests that response rates vary widely and several factors may contribute to response rates, such as the design of a questionnaire (Polit & Beck 2008) and the method of administration (de Vaus 2004), the nature of the study's topic and its saliency, the perceived threat of the topic, the length of the questionnaire and the methods employed to increase the response rates (e.g., using a covering letter, advance letters, incentives and reminders) (Bowling 2002). All of these factors are relevant to the present study and may be considered as the possible explanations for achieving a high response rate.

For the QUAL strand of this study, the sampling technique was initially aimed at achieving saturation of themes (Donovan & Sanders 2005; Streubert & Carpenter 2011). However, due to pragmatic reasons, including limited available resources (i.e., the primary researcher as the sole data collector, financial constraint and the research timeframe), only eight participants were interviewed. There is no universal guideline available to judge how many samples are enough to achieve data saturation. Guest, Bunce and Johnson (2006) suggest that to achieve a study objective(s), six to 12 interviews would be reasonably adequate. Cawley et al. (2011) argue that seven to 10 participants provide a good balance between the objective to accomplish data saturation in the study and the awareness of being practical (i.e., having limited resources).

Significance of the Findings to Clinical Practice

The results of this study have provided information on nurses' health behaviour and HP practice from an Indonesian standpoint and added evidence generated from relevant studies conducted predominantly in developed countries. Findings from this study may promote the enhancement of the nursing workforce and practice in the HP domain by highlighting the need to develop HP strategies to address specific groups (i.e., nurses working in a community healthcare centre *Puskesmas* context).

According to this study's findings, the nurses in the respective settings will benefit from tailored HP interventions that specifically promote their self-efficacy, enhancing the benefits of behavioural change and managing barriers to implement healthy lifestyles into their own lives. The chosen HP interventions should also take into account their socio-demographic characteristics, particularly for those with less favourable conditions, such as temporary employees, nurses with lower monthly incomes or those with poorer general health status, which were found to score lower in several domains of the HPLP-II compared with their counterparts.

Further strategies to foster the nurses' HP capacity and to assist them developing and maintaining positive professional identities and self-concepts should also be put in place. These strategies can be implemented by providing opportunities for the nurses to

pursue higher education or involvement in other forms of formal or informal continuing education. It is also suggested that strengthening the social support system through facilitating regular peer meeting/consultation or enhancing the role of professional association will be valuable. As nurses adopt a positive view and definition about their own selves in relation HP practice, they will eventually perceive themselves more positively as nurses working in *Puskesmas* with primary responsibilities to promote healthy behaviours and deliver disease prevention for their clients. These strategies may simultaneously assist the *Puskesmas* nurses to better understand and perform their roles.

The outcomes of this study will also contribute to advancement in the nursing education sector by providing valuable information grounded from the field; hence, it may serve as the basis of how to best structure the current education system for preparing and fostering students' capacity to undertake their future HP roles. Equally important, the current academic and clinical placement arrangements should be able to provide a conducive climate for developing and nurturing the nursing students' personal and professional identities (e.g., by enhancing the role of preceptors), which are found to be closely related with how the *Puskesmas* nurses in the present study assumed their role in HP.

Study Limitations

The limitations of employing telephone interviews emerged during the data collection and included difficulties to explore the participants' responses in greater details. The possible explanation of this issue is that a telephone interview was not a common method of data collection in the respected target population. The primary researcher also had a lack of experience in conducting telephone interviews. The yielded data, however, were reasonably sufficient to answer the posed research questions and did not compromise the data analysis and interpretation process. Another limitation was it was not possible to capture the participants' non-verbal responses, thus limiting the chance to confirm consistency between their verbal and non-verbal responses. Nevertheless, by considering the practical and ethical reasons, namely, the researchers had limited physical and financial capacities to perform face-to-face interviews with participants who were geographically living in a different country, and the sensitivity of the

interview's topic, the telephone interview was arguably the most appropriate method for this study.

Due to the large amount of data collected in the current study, only those areas of most significance have been reported. It is recommended for the readers to carefully interpret some findings yielded from the QUAN strand on account of the imbalanced number of samples in each group being compared, such as the independent t-test results comparing the HPLP-II scores base on the participants' employment and smoking status.

Finally, owing to the specific target population in this study (i.e., nurses working in *Puskesmas* within the Denpasar city area), the findings may not be generalisable beyond this population, thus potentially limiting its applicability elsewhere. Overall, however, this report offers a general overview of the *Puskesmas* nurses' personal and professional HP practices and highlights some areas for further study and practice improvement.

Recommendations for Further Investigation

The results of this study should not be considered the end product of research into the role of the nursing workforce and HP. Rather, it should be used as the starting point on how to best establish a system and put in place a set of strategies to transfer the findings into actions. In this sense, the ultimate goal is to assist the *Puskesmas* nurses to adopt healthier behaviours and better perform their role in HP. This target is unlikely to occur without strong motivation or readiness of the targets to change their current practice; thus, further research should be focused on this aspect. Likewise, studies to analyse the contextual attributes, such as the culture of organisation (*Puskesmas* or PHC), and other contributing factors that may influence the nurses' HP practice (e.g., formal or informal education and working experience) will provide invaluable information to develop the most appropriate HP strategies by taking into account the local aspects.

Future research is also necessary to evaluate the effectiveness of current HP strategies (e.g., the weekly wellness programme in every *Puskesmas* and HP training) and how to make such programmes have greater effects on current practice. In addition, this report

also highlights the need to further explore several findings that could not be fully uncovered in the present study, such as the meaning of the spirituality aspect of health from the nurses' perspective and how the nurses defined their identities and roles in relation to HP practice. This exploration may require future researchers to employ in-depth interviews or observations and any strategies to encourage a more intense researchers-researched engagement to elicit the nurses' view in greater details. An action research inquiry may also merit further consideration to maximise the involvement of the participants by empowering the nurses to reflect upon their current practice and actively act addressing their own problems, leading to improving their HP practice.

Last, to improve the generalisability of the findings, further studies with a larger and more diverse population, for example including nurses from both urban and rural practice areas, and over a longer period of time, deserve serious consideration.

Conclusions

This study aimed to investigate the health-promoting lifestyle (HPL) pattern among nurses working across all *Puskesmas* in Denpasar city and to simultaneously obtain an understanding of how the nurses view, experience and integrate their personal and professional health promotion (HP) practice. Earlier studies have generally been conducted in developed countries and were undertaken using quantitative inquires that may overlook the dynamic nature of the phenomenon and leave out the qualitative evidence regarding nurses' experience and perspective. Further, a review of the available literature indicated the dearth of studies exploring this phenomenon within the primary healthcare (PHC) context and that there was no relevant study from an Indonesian perspective.

Thus, to fill the gaps in the current literature and answer the posed research questions, a parallel mixed-methods (MM) study design was employed, combining a QUAN and QUAL research strand. Once approval to conduct the study was received from all appropriate authorities, data collection commenced. The QUAN strand was carried out by collecting the data using the adapted health-promoting lifestyle profile II (HPLP-II)

questionnaire for all nurses working in *Puskesmas* in Denpasar and the data were analysed using SPSS 20 for Windows. The QUAL strand's data were collected by undertaking telephone interviews with eight nurses working in the same area, then were analysed manually employing a thematic analysis.

Three major conclusions can be drawn from this study, which reflects the complex nature of HP practice in the population under investigation. First, the *Puskesmas* nurses showed sufficiently positive HPL patterns, except in the physical activity (PA) domain. The second conclusion was that there were significant differences found in several HPLP-II subscales based on the participants' particular socio-demographic characteristics (working experience, employment status, monthly income and perceived general health status). Finally, by integrating, combining or linking findings from the QUAN and QUAL strands, it can be concluded that there was a connection between the *Puskesmas* nurses' personal and professional HP practice. The connection was predominantly articulated in the form of their role as health promoters and models in living healthy lifestyles. More precisely, it was characterised by a notion of being imperfect role models and a blurred boundary between the nurses' personal and professional identities. This study also indicated a potential use of the culturally adapted HPLP-II instrument in an Indonesian sample.

The results of this study provide benchmark data that are not only consistent with the existing literature, but also offers a more comprehensive insight regarding the phenomenon under investigation by bringing together the QUAN and QUAL methods in the same study. It enables the researchers to simultaneously verify and generate theory from the field. Further possible investigations have been highlighted, such as the need to conduct a broader scale and longer period study to increase the generalisability of the findings, and to employ strategies that facilitate an intense researchers-researched engagement to elicit the nurses' views in greater details. Further studies should also assess the targets' readiness to change, identify the contextual or other factors contributing to nurses' HP practice, and explore the effectiveness of current HP strategies.

The project outcomes will be made publicly accessible through databases and a copy of the thesis will be lodged in the University of Adelaide library. A write up of the study

findings will be sent to the *International Journal of Evidenced Based Healthcare, Nursing and Health Sciences*, and the *Journal of Community Health Nursing*. A full report of this project will also be presented and made available to the Indonesian health networks.

In conclusion, findings from this study may promote the enhancement of the nursing workforce and practice in the HP domain by highlighting the need to develop strategies to foster the HP capacity of nurses working in a PHC context. The nursing education sector can also benefit because this study's outcomes provide a basis for how to best structure the current education system for preparing and fostering students' capacity to undertake their future HP roles and nurturing their personal and professional identities. All of these implications are relevant given the international commitment and the Indonesian government's emphasis on the important role of PHC in safeguarding the health of the general population. As the largest group of the healthcare workforce in all *Puskesmas* throughout Indonesia, being the front-line, *Puskesmas* nurses can be regarded as the most significant healthcare drivers in the PHC system of this country (Heywood & Harahap 2009; Ministry of Health Republic of Indonesia 2011). Accordingly, they have a pivotal role to maximise the health of the general population by affecting a significant percentage of clients with their effective HP activities, ultimately leading to more efficient and cost-effective healthcare provision.

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Appendices

Appendix 1. Project Time Table

Tasks	**2013**								
	March	April	May	June	July	Augst.	Sept.	Oct.	Nov
Literature review									
Research proposal									
Ethical approval									
Local authorities permission									
Pilot testing instruments									
Data collection									
Data analysis									
Thesis writing/editing									
Submission									

Appendix 2. Questionnaire

Preamble
Dear Sir/Madam,

My name is Made Rini Damayanti S, BNurs. I am academic staff of the School of Nursing, Faculty of Medicine, Udayana University Bali, currently studying for my master degree at the University of Adelaide, Australia. We are interested to explore the health-promoting lifestyles pattern and the community health practice amongst nurses working in *Puskesmas* across Denpasar area. Could you please take a few moments and answer this short questionnaire on the attached bellow?

By completing this survey you will be contributing to the goal of identifying best practices for enhancing the nursing workforce and nursing practice in health promotion by highlighting the need to develop health promotion interventions to increase the nurses' capacity to adopt healthy lifestyles into their own personal life and perform their professional health promotion.

This questionnaire is divided into two sections; section A which contained several questions asking your socio-demographic information and section B that consists of statements about your *present* way of life or personal habits. The questionnaire will take approximately 15-25 minutes. Your name will not be recorded on the questionnaire, your responses will be anonymous and all information provided will be kept confidential. Your participation is voluntary and you may choose to not participate without compromising any future affiliation between the school and your institution, including teaching and students' placement. Your decision about participation will not impact your current or further employment and education.

All information will be reported in the aggregate. A designated box to put the answered questionnaires will be placed in each *Puskesmas*. A referral to a counsellor from the university hospital in Denpasar will be made available for the research participants who express a need (Address: Jl. PB. Sudirman Denpasar 80232 Bali; Telephone: +62 361 222510). By completing this questionnaire you are consenting to take part in this research project.

I thank you for your time and consideration in contributing to this project and if you have any questions about the study you may contact the project co-coordinator: Frank Donnelly, RN, BNurs., MNurs., Grad. Cert. Ed. (Higher Ed), Grad. Dip. Intensive Care at frank.donnelly@adelaide.edu.au (telephone +61 8 8313 3639). You may also contact me at a1614190@student.adelaide.edu.au or damayanti_maderini@yahoo.com (telephone +61 425604493 or at local line +62 87863264761 or +62 361 222510).

If you wish to discuss with an independent person matters related to making a complaint, or raising concerns on the conduct of the project, or the University policy on research involving human participants, or your rights as a participant, contact the Human Research Ethics Committee's Secretariat on phone +61 8 8313 6028 or by email to hrec@adelaide.edu.au.

Sincerely,

Section A: Socio-demographic information

Direction:
Please answer each item by checking (√) one of the responses or writing your answer that best reflects your situation

1	Gender ( ) Male ( ) Female
2	Age ( ) ≤ 20 years ( ) 21 – 30 years ( ) 31 – 40 years ( ) 41 – 50 years ( ) > 50 years
3	Marital status ( ) Single ( ) Married ( ) Divorced/widowed/separated
4	Highest level of nursing education ( ) Vocational degree or technical nurses 'Sekolah Perawat Kesehatan/SPK' ( ) Diploma ( ) Bachelor degree ( ) Postgraduate degree, with area of specialisation.....(e.g. community nursing) ( ) Others, please specify.....
5	Working experience in community health centre ( ) < 1 years ( ) 1 – 5 years ( ) 6 – 10 years ( ) > 10 years
6	Apart from nursing education, have you had any training or courses about health promotion? ( ) Yes ( ) No
7	Employment status ( ) Permanent ( ) Temporary ( ) Others, please specify.....
8	Income (per month) ( ) < 1500000,- IDR ( ) 1500000,- to 3000000,- IDR ( ) > 3000000,- IDR
9	Living arrangement ( ) Extended family (at least three generation living in one house) ( ) Nuclear family (consists only of father, mother, and children) ( ) Alone

	( ) Others, please specify.....
10	General health status ( ) Excellent ( ) Good ( ) Fair ( ) Poor ( ) Very poor
11	Body weight (kg) = Body height (cm) =
12	Smoking habit ( ) Yes ( ) No

Section B: Health-Promoting Lifestyle Pattern

Directions:

This section contains statements about your *present* way of life or personal habits. Please respond to each item as accurately as possible, and try not to skip any item. Indicate the frequency with which you engage in each behaviour by checking (√):

N for never, **S** for sometimes, **O** for often, or **R** for routinely

No	Statements	N	S	O	R
1	Discuss my problems and concerns with people close to me.				
2	Choose a diet low in fat, saturated fat, and cholesterol.				
3	Report any unusual signs or symptoms to a physician or other health professional.				
4	Follow a planned exercise program.				
5	Get enough sleep.				
6	Feel I am growing and changing in positive ways.				
7	Praise other people easily for their achievements.				
8	Limit use of sugars and food containing sugar (sweets).				
9	Read or watch TV programs about improving health.				
10	Exercise vigorously for 20 or more minutes at least three times a week (such as brisk walking, bicycling, aerobic dancing, using a stair climber).				

		N	S	O	R
11	Take some time for relaxation each day.				
12	Believe that my life has purpose.				
13	Maintain meaningful and fulfilling relationships with others.				
14	Eat 6-11 servings of bread, cereal, rice and pasta each day.				
15	Question health professionals in order to understand their instructions.				
16	Take part in light to moderate physical activity (such as sustained walking 30-40 minutes 5 or more times a week).				
17	Accept those things in my life which I cannot change.				
18	Look forward to the future.				
19	Spend time with close friends.				
20	Eat 2-4 servings of fruit each day.				
21	Get a second opinion when I question my health care provider's advice.				
22	Take part in leisure-time (recreational) physical activities (such as swimming, dancing, bicycling).				
23	Concentrate on pleasant thoughts at bedtime.				
24	Feel content and at peace with myself.				
25	Find it easy to show concern, love and warmth to others.				
26	Eat 3-5 servings of vegetables each day.				
27	Discuss my health concerns with health professionals.				
28	Do stretching exercises at least 3 times per week.				
29	Use specific methods to control my stress.				
30	Work toward long-term goals in my life.				
31	Touch and am touched by people I care about.				
32	Eat 2-3 servings of milk, yogurt or cheese each day.				
33	Inspect my body at least monthly for physical changes/danger signs.				
34	Get exercise during usual daily activities (such as walking during lunch, using stairs instead of elevators, parking car away from destination and walking).				
35	Balance time between work and play.				

		N	S	O	R
36	Find each day interesting and challenging.				
37	Find ways to meet my needs for intimacy.				
38	Eat only 2-3 servings from the meat, poultry, fish, dried beans, eggs, and nuts group each day.				
39	Ask for information from health professionals about how to take good care of myself.				
40	Check my pulse rate when exercising.				
41	Practice relaxation or meditation for 15-20 minutes daily.				
42	Am aware of what is important to me in life.				
43	Get support from a network of caring people.				
44	Read labels to identify nutrients, fats, and sodium content in packaged food.				
45	Attend educational programs on personal health care.				
46	Reach my target heart rate when exercising.				
47	Pace myself to prevent tiredness.				
48	Feel connected with some force greater than myself.				
49	Settle conflicts with others through discussion and compromise.				
50	Eat breakfast.				
51	Seek guidance or counselling when necessary.				
52	Expose myself to new experiences and challenges.				

Appendix 3. Telephone Interview Guidance

Topics and questions for telephone interview data collection:

- Topic one: the nurses' health-promoting lifestyle
    - How do you define healthy lifestyles?
    - What are the benefits of adopting healthy lifestyle into our own life?
    - Are there any factors that preventing you to adopt healthy lifestyle into your personal life?

- Topic two: the nurses health promotion practice to their clients
    - From your understanding, what is the health promotion about?
    - Tell me about your role in health promotion as a nurse working in community health centre. What would you do in a typical day?
    - What are the main health problems that you come across in your workplace?
    - What effect do you think health promotion has on clients' health?
    - Tell me about challenges that you encounter to promote healthy lifestyle to your clients. What would you usually do about it?
    - What is satisfying about working as a nurse in community health centre?
    - Are there any factors contribute to nurses' ability to carry out health promotion to their clients?

Appendix 4. Evidence of Ethical Approvals

THE UNIVERSITY of ADELAIDE

RESEARCH BRANCH
OFFICE OF RESEARCH ETHICS, COMPLIANCE AND INTEGRITY

BEVERLEY DOBBS
EXECUTIVE OFFICER
LOW RISK HUMAN RESEARCH ETHICS REVIEW GROUP (FACULTY OF HUMANITIES AND SOCIAL SCIENCES AND FACULTY OF THE PROFESSIONS)
THE UNIVERSITY OF ADELAIDE
SA 5005
AUSTRALIA

TELEPHONE +61 8 8313 4725
FACSIMILE +61 8 8313 7325
email: beverley.dobbs@adelaide.edu.au

2 July 2013

Mr F Donnelly
School of Nursing

Dear Mr Donnelly

ETHICS APPROVAL No: **HS-2013-030**
PROJECT TITLE: **A quantitative and qualitative analysis of nurses' lifestyles and community health practice in Denpasar Bali**

I write to advise that the Low Risk Human Research Ethics Review Group (Faculty of Health Sciences) has approved the above project. The ethics expiry date for this project is **30 Jun 2016**.

Ethics approval is granted for three years subject to satisfactory annual progress and completion reporting. The form titled *Project Status Report* is to be used when reporting annual progress and project completion and can be downloaded at http://www.adelaide.edu.au/ethics/human/guidelines/reporting. On expiry, ethics approval may be extended for a further period.

Participants in the study are to be given a copy of the Information Sheet and the signed Consent Form to retain. It is also a condition of approval that you **immediately report** anything which might warrant review of ethical approval including:

- serious or unexpected adverse effects on participants,
- previously unforseen events which might affect continued ethical acceptability of the project,
- proposed changes to the protocol; and
- the project is discontinued before the expected date of completion.

Please refer to the following ethics approval document for any additional conditions that may apply to this project.

Yours sincerely

Dr John Semmler
HREC Convenor on behalf of the
Low Risk Human Research Ethics Review Group (Faculty of Health Sciences)

RESEARCH BRANCH
OFFICE OF RESEARCH ETHICS, COMPLIANCE AND INTEGRITY

BEVERLEY DOBBS
EXECUTIVE OFFICER
LOW RISK HUMAN RESEARCH ETHICS REVIEW GROUP (FACULTY OF HUMANITIES AND SOCIAL SCIENCES AND FACULTY OF THE PROFESSIONS)
THE UNIVERSITY OF ADELAIDE
SA 5005
AUSTRALIA

TELEPHONE +61 8 8313 4725
FACSIMILE +61 8 8313 7325
email: beverley.dobbs@adelaide.edu.au

Applicant: Mr F Donnelly

School: Nursing

Application/RM No: 16627

Project Title: **A quantitative and qualitative analysis of nurses' lifestyles and community health practice in Denpasar Bali**

Low Risk Human Research Ethics Review Group (Faculty of Health Sciences)

ETHICS APPROVAL No: **HS-2013-030**

APPROVED for the period: **17 Jun 2013 to 30 Jun 2016**

This study is to be conducted by M R Damayanti S, Masters by Coursework Student.

Dr John Semmler
HREC Convenor on behalf of the
Low Risk Human Research Ethics Review Group (Faculty of Health Sciences)

Appendix 5. Letter of Permission to the Overseas Authority

This is the English version of the Bahasa Indonesia version of the letter that had been sent to the Bali Province Commission on Nation Unity and Politics. This letter is translated by the primary researcher (Made Rini Damayanti S)

..... April 2013

The Head of Bali Province Commission on Nation Unity and Politics
Jalan Kapten Tantular No. 1 Denpasar, Bali

Dear Mr/Mrs,

I am writing to request permission to conduct a quantitative and qualitative study of nurses' lifestyles and community health practice in Denpasar Bali. I am a lecturer at School of Nursing Udayana University Bali and currently enrolled in the master program at the School of Nursing, Faculty of Health Science, University of Adelaide, Australia. This study is my thesis project to complete the study and will be conducted under supervision from Frank Donnelly, RN, BNurs., MNurs and Briony Lia, RN, MHN, NP.

The study will be conducted in all community health centres within Denpasar City area. The participants for the study will be all nurses working within the targeted settings which will consist of 111 survey-based respondents who will be recruited using a total sampling method. It will be followed by a telephone interview-based data collection for those who are willing to participate by employing a convenience sampling technique. The study will take at least one to two months to finish the data collection, from May to August 2013.

The study results will be pooled for the thesis project and individual results of this study will remain absolutely confidential and anonymous. This study will not try to collect the participants' identification information. No costs will be incurred by the individual participants.

Your approval to conduct this study will be greatly appreciated. I will follow up with a telephone call and would be happy to answer any questions or concerns that you may have at that time. You may contact me at my email address: a1614190@student.adelaide.edu.au

For your consideration as attached are the summary of research proposal, a copy of my student card at University of Adelaide and a letter from the Dean of Faculty of Medicine, Udayana University Bali stating my employment status as a staff at Udayana University who is currently a student at master program at the University of Adelaide, Australia.

Sincerely,

Made Rini Damayanti S

Appendix 6. Evidence of Permissions or Approvals from Overseas Authorities

Letter of recommendation from the Head of School of Nursing, Faculty of Medicine, Udayana University Bali

KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS UDAYANA
FAKULTAS KEDOKTERAN
PROGRAM STUDI ILMU KEPERAWATAN
JL PB Sudirman 80232 Denpasar ☎(0361) 222510 Fax. (0361)246656 E-mail : psikfkunud@yahoo.com

Nomor : 086/UN.14.2/PS.3/KP/2013 Denpasar, 2 April 2013
Lamp. : -
Perihal : Permohonan Ijin Penelitian

Kepada
Yth. Dekan Fakultas Kedokteran Universitas Udayana
di tempat,

Yang bertanda tangan di bawah ini:
Nama : Ns. Ni Komang Ari Sawitri, S.Kep, M.Sc
NIP : 19820628 200801 2007
Pangkat/Golongan : Asisten Ahli / III.a
Jabatan : Sekretaris PSIK FK Unud

Mengajukan permohonan ijin penelitian bagi staf dosen kami atas nama saudari :

Nama	: Made Rini Damayanti S
Jabatan	: Staf dosen Program Studi Ilmu Keperawatan FK Universitas Udayana
Status	: Mahasiswa Program Pasca Sarjana 'Master of Nursing Science' University of Adelaide
NIM	: 1614190
Judul Penelitian	: Perilaku Hidup Sehat Perawat dan Implikasinya Terhadap Praktik Promosi Kesehatan Di Puskesmas
Pembimbing Utama	: Frank Donnelly, RN, BNurs., Mnurs., Grad. Cert. Ed (Higher Ed), Grad. Dip. Intensive Care
Pembimbing Pendamping	: Briony Lia, RN, MHN, NP, Dip. App. Sc. (Nursing), Grad. Dip. of Health Counselling Grad. Cert. in Family Therapy, MA Specialist Nursing Practice (Mental Health)
Tempat	: Seluruh Puskesmas di wilayah Kota Denpasar
Waktu	: April s/d Agustus 2013

Demikian surat permohonan ijin ini kami sampaikan, atas perkenaan dan bantuan Bapak / Ibu kami ucapkan terima kasih.

Program Studi Ilmu Keperawatan
Fakultas Kedokteran Univ.Udayana
Sekretaris,

Ns. Ni Komang Ari Sawitri, S.Kep, M.Sc
NIP. 19820628 200801 2007

Letter of recommendation from the Dean of Faculty of Medicine, Udayana University Bali

KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS UDAYANA
FAKULTAS KEDOKTERAN

Jl. PB Sudirman 80232 Denpasar ☎(0361) 222510 Fax. (0361)246656 E-mail : fkunud@indosat.net.id

Nomor : 766/UN.14.2/PP/2013 Denpasar, 8 April 2013
Lamp. : -
Perihal :Permohonan Ijin Penelitian

Kepada Yth.
Kepala Badan Kesatuan Bangsa dan Politik Provinsi Bali
Ditempat,

Yang bertanda tangan di bawah ini:

Nama	: Prof. Dr. dr. Ketut Suastika,Sp.PD-KEMD
NIP	: 19550329 198012 1 001
Pangkat/Golongan	: Pembina Utama/ IV.e
Jabatan	: Dekan Fakultas Kedokteran Universitas Udayana

Mengajukan permohonan ijin penelitian staf dosen kami atas nama saudara:

Nama	: Made Rini Damayanti S
Jabatan	: Staf dosen Program Studi Ilmu KeperawatanFK Universitas Udayana
Status	: Mahasiswa Program Pasca Sarjana 'Master of Nursing Science' University of Adelaide
NIM	: 1614190
Judul Penelitian	: Perilaku Hidup Sehat Perawat dan ImplikasinyaTerhadap Praktik Promosi Kesehatan Di Puskesmas
Pembimbing Utama	: Frank Donnelly, RN, BNurs., Mnurs., Grad. Cert. Ed (Higher Ed), Grad. Dip. Intensive Care
Pembimbing Pendamping	: Briony Lia, RN, MHN, NP, Dip. App. Sc. (Nursing), Grad. Dip. of Health Counselling Grad. Cert. in Family Therapy, MA Specialist Nursing Practice (Mental Health)
Tempat	: Seluruh Puskesmas di wilayah Kota Denpasar
Waktu	: April s/d Agustus 2013

Demikian surat permohonan ijin ini kami sampaikan, atas berkenan dan bantuan Bapak/Ibu kami ucapkan terima kasih.

Dekan Fakultas Kedokteran Universitas Udayana

Prof. Dr. dr. Ketut Suastika,Sp.PD-KEMD
NIP. 19550329 198012 1 001

Tembusan :
1. Ketua PSIK FK Unud
2. Arsip

Letter of recommendation from the local authority The Bali Province Commission on National Unity and Politics cc to the district level of Commission on National Unity and Politics

PEMERINTAH PROVINSI BALI
BADAN KESATUAN BANGSA DAN POLITIK
Jalan Kapten Tantular No. 1 Niti Mandala Telp. (0361) 255193 Fax (0361) 231788
Denpasar 80235

Nomor : 070/677/BID I/BKBP
Lamp : -
Hal : Rekomendasi

Kepada
Yth. Walikota Denpasar
Cq. Kepala Badan Kesbang Pol dan Linmas
di
Denpasar

I. Dasar
1. Peraturan Gubernur Bali Nomor 10 Tahun 2005 tanggal 9 Mei 2005 tentang Rekomendasi/ Ijin Penelitian, Survey, KKL / KKN, Study Banding, Kerbaksos, PKL, Pengabdian Kepada Masyarakat bagi Mahasiswa / Dosen, Instansi Pemerintah / Swasta dan Orang Asing.
2. Surat Dekan Fakultas Kedokteran Universitas Udayana Nomor : 766/UN14.2/PP/2013 Tgl 8 April 2013 Perihal: Mohon Rekomendasi Penelitian

II. Setelah mempelajari dan meneliti rencana kegiatan yang diajukan, maka dapat diberikan Rekomendasi / Ijin kepada :

Nama	:	Made Rini Damayanti S
Pekerjaan	:	Mahasiswa
Alamat	:	Jl. PB. Sudirman Denpasar
Judul/Bidang	:	Perilaku Hidup Sehat Perawat dan Implikasinya terhadap Praktik Promosi Kesehatan di Puskesmas
Lokasi	:	Puskesmas di Seluruh Kota Denpasar
Jumlah Peserta	:	1 Orang.
Lama Penelitian	:	4 Bulan (April 2013 - Agustus 2013)

III. Dalam melakukan kegiatan agar yang bersangkutan mematuhi ketentuan sebagai berikut :
a. Sebelum melakukan kegiatan agar melaporkan kedatangannya kepada Bupati /Walikota setempat atau Pejabat yang Berwenang.
b. Tidak dibenarkan melakukan kegiatan yang tidak ada kaitannya dengan bidang / judul dimaksud, apabila melanggar ketentuan akan dicabut Rekomendasi/Ijin dan menghentikan segala kegiatannya.
c. Mentaati segala ketentuan perundang- undangan yang berlaku serta mengindahkan Adat Istiadat dan Budaya setempat.
d. Apabila masa berlaku Rekomendasi / Ijin ini telah berakhir, sedangkan pelaksanaan kegiatan belum selesai maka perpanjangan Rekomendasi / Ijin agar ditujukan kepada instansi pemohon.
e. Menyerahkan 1 (satu) buah hasil kegiatan kepada Pemda Provinsi Bali, melalui Kepala Badan Kesbang Pol Provinsi Bali.

Demikian Surat Rekomendasi ini dibuat untuk dipergunakan sebagaimana mestinya.

Denpasar, 15 April 2013
an. Kepala Badan Kesatuan Bangsa dan Politik Provinsi Bali
Kabid Kewaspadaan Dini

PEMERINTAH PROVINSI BADAN KESBANG DAN POLITIK B A

Drs. I Nyoman Subrata, MM
Pembina Tingkat I
NIP. 19581231 198303 1 280

Tembusan di Sampaikan Kepada Yth :

The research approval letter from the local authority The Bali Province Commission on National Unity and Politics cc to the Denpasar District Health Office and Head of Puskemas in Denpasar area

PEMERINTAH KOTA DENPASAR
BADAN KESATUAN, BANGSA, DAN POLITIK
JALAN BELITON No.1 TELEPON 234648 DENPASAR

Nomor : 070/243/BKBP
Lampiran : -
Prihal : **Ijin Rekomendasi**

K e p a d a
Yth. 1. Kadis Kesehatan Kota Denpasar
2. Kepala Puskesmas se-Kota Denpasar
di-
Denpasar

Berdasarkan Surat Gubernur Bali C/q Kepala Badan Kesatuan Bangsa dan Politik Propinsi Bali, Nomor : 070/677/BID I/BKBP, tanggal 15 April 2013, prihal Ijin Rekomendasi, setelah mempelajari maksud dan tujuan surat permohonan dimaksud, maka Walikota Denpasar memberikan ijin mengadakan penelitian kepada :

Nama	:	**Made Rini Damayanti S.**
Pekerjaan	:	Mahasiswa.
Alamat	:	Jl. PB. Sudirman Denpasar.
Judul/Bidang	:	**Perilaku Hidup Sehat Perawat dan Implikasinya terhadap Praktik Promosi Kesehatan di Puskesmas.**
Lokasi	:	Di Puskesmas se-Kota Denpasar.
Jumlah Peserta	:	1 (Satu) orang.
Lama Penelitian	:	4 (Empat) Bulan (April – Agustus 2013).

Dengan ketentuan sebagai berikut :

1. Sebelum mengadakan penelitian/kerja praktek agar melapor kepada Atasan/Kepala Instansi bersangkutan.
2. Selesai mengadakan penelitian melapor kembali Kepala Badan Kesatuan Bangsa dan Politik Kota Denpasar.
3. **Menyerahkan 1 (satu) exemplar hasil penelitian tersebut kepada Pemerintah Kota Denpasar (Kepala Badan Kesatuan Bangsa dan Politik Kota Denpasar).**
4. Dilarang melakukan kegitan diluar daripada kegiatan tujuan yang telah ditetapkan dan pelanggaran terhadap ketentuan di atas, ijin ini akan dicabut dan menghentikan segala kegiatannya.
5. Para peneliti, Survey, Study Perbandingan, KKL, KKN mentaati dan menghormati ketentuan yang berlaku di Daerah setempat.

Dikeluarkan di : Denpasar
Pada tanggal : 16 April 2013
Kepala Badan Kesatuan Bangsa dan Politik
Kota Denpasar,

PEMERINTAH KOTA DENPASAR
BADAN KESBANG DAN POLITIK

Drs. I Komang Sugiarta, M.Si
NIP. 19611231 199003 1 126

Tembusan disampaikan :
1. Walikota Denpasar (sebagai laporan)
2. Yang bersangkutan
3. Arsip.

Appendix 7. Participant Information Sheet

Dear Sir/Madam,
I am academic staff of the School of Nursing, Faculty of Medicine, Udayana University Bali, currently studying for my master degree at the University of Adelaide, Australia. To fulfil my study requirement, I will conduct a research project with the title:

'A quantitative and qualitative analysis of nurses' lifestyles and community health practice in Denpasar Bali'

Researcher:
Made Rini Damayanti S, BNurs.
Master of Nursing Student, School of Nursing, Faculty of Health Science, the University of Adelaide.
Level 3 Eleanor Harrald Building, the University of Adelaide SA 5005 Australia
Email: a1614190@student.adelaide.edu.au or damayanti_maderini@yahoo.com
Telephone +61 425604493
Local line telephone +62 87863264761 or +62 361 222510

Supervisors: Frank Donnelly, RN, BNurs., MNurs and Briony Lia, RN, MHN, NP.

I would like to invite you to consider participating in my research project. The purpose of this study is threefold, namely, to describe the personal health-promoting lifestyle amongst nurses working in community health centres, to determine any significant differences between selected socio-demographic variables and the health-promoting lifestyles of nurses working in community health centre, and to obtain an understanding of how nurses view, experience and integrate their personal and professional health promotion practice. Findings yielded from this project will provide information on nurses' personal health behaviour pattern and their health promotion practice in primary healthcare context from the Indonesia's perspective. Subsequently, these results may inform the enhancement of nursing workforce and nursing practice in health promotion by highlighting the need to develop health promotion interventions to increase the nurses' capacity to adopt healthy lifestyles into their own personal life and perform their professional health promotion roles as promoters and role models; given the international commitment and the Indonesian government emphasis on the important role of primary healthcare to safeguard the health of the general population.

This study encompasses two arms of data collections. The initial data collection will request you to complete a survey-based questionnaire consists of several questions related to your socio-demographic characteristics and health behaviours. The questionnaire will take approximately 15-25 minutes. Your name will not be recorded

on the questionnaire, your responses will be anonymous and all information provided will be kept confidential. A designated box to put the answered questionnaires will be placed in each *Puskesmas.* A souvenir conveying health promotion message is available for each respondent. The second arm of this study will request your willingness to participate in a semi-structured telephone-interview performed by the principal researcher. If you are agreed to be interviewed, you may conveniently decide the interview's schedule by confirming this schedule to the research assistant by phone anonymously. You will be not asked about your personal identification information. The process will be tape-recorded and each interview will take about 30 minutes. Your personal information will be kept confidential. No costs will be incurred by the individual participants. A food voucher as incentive is offered for those who participate on the telephone interview session.

The study results will be pooled for the thesis project and individual results of this study will remain confidential and anonymous. To report findings generated from the telephone interview, you will be referred to by a pseudonym. All materials and records either written or electronic form yielded from this study will be kept in a locked filing cabinet and password protected folders within USB mass-storage device. They will be retained for five years and only those who are authorised will have access to these materials and records.

Your participation is voluntary and you may choose to not participate without compromising any future affiliation between the school and your institution, including teaching and students' placement. Your decision about participation will not impact your current or further employment and education. A referral to a counsellor from the university hospital in Denpasar will be made available for the research participants who express a need (Address: Jl. PB. Sudirman Denpasar 80232 Bali; Telephone: +62 361 222510).You may also withdraw the consent at any stage without penalty. If you are willing to participate, please sign the attached consent form.

Any complaints regarding this study may be directed to the Human Research Ethics Committee's Secretariat on phone +61 8 8313 6028 or by email to hrec@adelaide.edu.au using the attached complaints sheet.

Your assistance will be highly appreciated
Yours sincerely

Made Rini Damayanti S

Appendix 8. Consent Form

Human Research Ethics Committee (HREC)

CONSENT FORM

1. I have read the attached Information Sheet and agree to take part in the following research project:

Title:	**A quantitative and qualitative analysis of nurses' lifestyles and community health practice in Denpasar Bali**
Ethics Approval Number:	**HS-2013-030**

2. I have had the project, so far as it affects me, fully explained to my satisfaction by the research worker. My consent is given freely.

3. Although I understand the purpose of the research project it has also been explained that involvement may not be of any benefit to me.

4. I have been informed that, while information gained during the study may be published, I will not be identified and my personal results will not be divulged.

5. I understand that I am free to withdraw from the project at any time.

6. I agree to the interview being audio/video recorded. Yes ☐ No ☐

7. I am aware that I should keep a copy of this Consent Form, when completed, and the attached Information Sheet.

Participant to complete:

Name: _____ Signature: _____ Date: _____

Researcher/Witness to complete:

I have described the nature of the research to _____
(print name of participant)

and in my opinion she/he understood the explanation.

Signature: _____ Position: _____ Date: _____

Appendix 9. Contacts and Independent Complaints Procedure Sheet

The University of Adelaide
Human Research Ethics Committee (HREC)

This document is for people who are participants in a research project.

CONTACTS FOR INFORMATION ON PROJECT AND INDEPENDENT COMPLAINTS PROCEDURE

The following study has been reviewed and approved by the University of Adelaide Human Research Ethics Committee:

Project Title:	**A quantitative and qualitative analysis of nurses' lifestyles and community health practice in Denpasar Bali**
Approval Number:	**HS-2013-030**

The Human Research Ethics Committee monitors all the research projects which it has approved. The committee considers it important that people participating in approved projects have an independent and confidential reporting mechanism which they can use if they have any worries or complaints about that research.

This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research (see http://www.nhmrc.gov.au/publications/synopses/e72syn.htm)

1. If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then you should consult the project co-ordinator:

Name:	Frank Donnelly, RN, BNurs., MNurs., Grad. Cert. Ed. (Higher Ed), Grad. Dip. Intensive Care Made Rini Damayanti S, BNurs.
Phone:	+61 8 8313 3639 +61 425604493 or +62 87863264761

2. If you wish to discuss with an independent person matters related to:
   - making a complaint, or
   - raising concerns on the conduct of the project, or
   - the University policy on research involving human participants, or
   - your rights as a participant,

contact the Human Research Ethics Committee's Secretariat on phone +61 8 8313 6028 or by email to hrec@adelaide.edu.au