Women’s call for caring care
– perspectives of Chinese women with gestational diabetes mellitus about beliefs, self-care behavior, quality of care and lived experience
WOMEN’S CALL FOR CARING CARE
– perspectives of Chinese women with gestational diabetes mellitus about beliefs, self-care behavior, quality of care and lived experience

LI GE

LINNAEUS UNIVERSITY PRESS
Women’s call for caring care – perspectives of Chinese women with gestational diabetes mellitus about beliefs, self-care behavior, quality of care and lived experience

Doctoral dissertation, Department of Health and Caring Sciences, Linnaeus University, Växjö, Sweden, 2016

Published by: Linnaeus University Press, 351 95 Växjö, Sweden
Printed by: Elanders Sverige AB, 2016
Abstract


The overall aim of the thesis was to explore the perspectives of Chinese women with gestational diabetes mellitus (GDM) focused on their beliefs about health and illness and self-care behavior, the quality of care in China, and their lived experience.

All the studies were conducted with qualitative methodology using individual interviews. Data were collected in obstetric clinics or wards at three different hospitals or the participants’ workplaces in the south east of China. Content analysis, according to Mayring, was used for data analysis in Study I (15 interviews) and Study II (17 interviews). Content analysis, according to Graneheim & Lundman, was used for data analysis in Study III (44 interviews). In Study IV (18 interviews), data were analyzed by using phenomenological hermeneutics, according to Lindseth & Norberg.

Three styles of beliefs about GDM among the Chinese women were explored in the thesis: GDM should be considered seriously; GDM was not a severe illness; and GDM was nothing to worry about. Correspondingly, three self-care behavior models were revealed: women strove to control GDM, and maintained their blood glucose values at a normal level; or women tried to control GDM based on the knowledge they received, but some of them felt helpless because the blood glucose level could not be maintained within the normal range; or women almost ignored GDM. They mainly sought help from professional sector and popular sector, and regarded health professionals and husbands as important people. They showed, however, that they sought a balance between following professionals’ advice and avoiding practical difficulties, which demonstrated the influence of health professionals, people around, and Chinese culture. The thesis highlighted a lack of knowledge, a lower level of risk awareness and poor self-care behavior among the women with GDM, as well as a lack of professional care resources for GDM and the lack of high-quality personalized care for the women. The core problem could be an resource imbalance between over-stretched hospitals and low-efficiency under-utilized primary healthcare centers. Their lived experience showed an eagerness to be cared for.

The thesis highlighted women’s call for caring care in China. The care of GDM for these women can most likely be improved by reform of clinical practice, particularly in primary healthcare services. It is necessary to increase the number of health professionals and material resources to a reasonable level, and to strengthen caring care in China.

KEY WORDS: Gestational diabetes, Beliefs, Behavior, Care, Lived experience, China
ACKNOWLEDGEMENTS

I would like to express my sincere appreciation to Sweden and Linnaeus University for providing this excellent PhD study opportunity for me, a Chinese researcher, to have a wonderful academic journey in Sweden. I also would like to thank my family, friends and colleagues who have supported and helped me in the academic journey in so many ways during the long five years. I am special grateful to:

My main supervisor, Associate Professor Mikael Rask, for your warm and never-ending support as well as your patience and heuristic guidance during my study process. I know that it is more difficult as my supervisor because we have completely different cultures and both of us use a second language, i.e. English, when we work together. I never forget that you patiently explained the knowledge by using photos and pictures or drawing a figure to try to make me understand. Because of you, I feel that research is so interesting and I am like a little bird flying in the academic sky. I do thank that you always have time and answer all my questions in time. I am lucky to have you, a knowledgeable, wise and warm scholar, as my main supervisor and role model.

My co-supervisor, Senior Lecturer Kerstin Vikby, for your warm support and a great deal of encouragement during my study. I never forget your warm smile which lights my heart. Thank you so much for your so many useful comments to solve my difficulties. You are my life model as a wise and warm teacher, wife and mother.

Professor David Brunt, for your great support on my academic English writing. You not only revised all my manuscripts, but also spend your valuable time on patiently explaining for me how and why you revised so. Without you, I cannot make the big progress on my academic English writing.

Senior Internationalization Officer Ingela Åberg and Internationalization Advisor Charlotte Skoglund, for your significant work and pushing on the PhD students’s exchange program between Linnaeus University and Georgia College and State University of the USA. It provided me with a great opportunity to have a wonderful study experience in Georgia College and
State University for three months, which improved my academic level and English.

PhD student Yousheng Chen, my roommate whose major is Mechanical Engineering. In the remote foreign land, our friendship is the snuggling warm at the cold winter night. Because of you, I am braver and have more energy to face all difficulties in my PhD journey in a foreign land.

ICT coach Fateme Yazdi, for your warm help during my most difficult time in Sweden. I never forget the warm and comfortable atmosphere when we were lying on the sofa together and watching TV at your home at night.

Professor Anders Broström, Associate Professor Janeth Leksell, and PhD student Anna-Carin Aho, for your valuable comments in my half time seminar.

International coordinator Judy Chow and Ms. Mengjiao Dong, for your warm help on my adaptation to life in Sweden. I enjoyed the time with you such as the eating parties, picking mushrooms, and so on.

ICT coach Fateh Yazdi, for your warm help during my most difficult time in Sweden. I never forget the warm and comfortable atmosphere when we were lying on the sofa together and watching TV at your home at night.

PhD student Sofia Backåberg, for your help in the courses and seminars. You show me a smart and clever Swedish PhD student model. Many thanks for your ergonomic guidance to me. I do not have pain on my neck and shoulder due to it.

ICT coach Fateh Yazdi, for your warm help during my most difficult time in Sweden. I never forget the warm and comfortable atmosphere when we were lying on the sofa together and watching TV at your home at night.

Professor Anders Broström, Associate Professor Janeth Leksell, and PhD student Anna-Carin Aho, for your valuable comments in my half time seminar.

ICT coach Fateh Yazdi, for your warm help during my most difficult time in Sweden. I never forget the warm and comfortable atmosphere when we were lying on the sofa together and watching TV at your home at night.

PhD student Sofia Backåberg, for your help in the courses and seminars. You show me a smart and clever Swedish PhD student model. Many thanks for your ergonomic guidance to me. I do not have pain on my neck and shoulder due to it.

ICT coach Fateh Yazdi, for your warm help during my most difficult time in Sweden. I never forget the warm and comfortable atmosphere when we were lying on the sofa together and watching TV at your home at night.

PhD student Sofia Backåberg, for your help in the courses and seminars. You show me a smart and clever Swedish PhD student model. Many thanks for your ergonomic guidance to me. I do not have pain on my neck and shoulder due to it.
chief doctor Zhaohua You who work in the Maternal and Children Hospital of Fujian Province; the vice director of the nursing department Fengxiang Chen, charge nurse Zhirong Su and obstetrician-in-charge Fang Zheng who work in the Second Hospital of Fuzhou in Fujian province; the director of the nursing department Fengguang Guan, charge nurse Haiyan Liao and nurse-in-charge Xiaojia Pan who work in the Second People’s Hospital of Fujian province.

I thank Professor Katarina Hjelm and Senior Lecturer Emina Hadziabdic for the supervision at the beginning time of my PhD program. I would like to express my forever pining for Mr. Björn Albin. During my beginning year in Sweden, your encouragement, support and help were my psychological cornerstone. The twirling snow in the afternoon and the dancing flames in the fireplace at your home will be in my memory for ever.

I would like to express my great gratitude to my husband, Xiangti Yu, and my son, Kaiyue Yu. Without your support, I cannot come to Sweden and have the wonderful academic journey. I know how hard the five years are for both of you. Many thanks for your unconditional love for me.
CONTENTS

ACKNOWLEDGEMENTS ................................................................................................. 1
LIST OF PAPERS ........................................................................................................ 6
INTRODUCTION ........................................................................................................... 7
BACKGROUND ............................................................................................................. 10
  Healthcare system in China .................................................................................. 10
  Health insurance system in China ......................................................................... 12
  Chinese culture about pregnancy and postpartum care ...................................... 14
  Gestational diabetes mellitus ............................................................................. 16
  Quality of care for women with GDM ................................................................. 17
  Health care for women with GDM in China .......................................................... 18
THEORETICAL FRAMEWORK .............................................................................. 20
  Self-Care Deficit Theory of Nursing ................................................................... 22
  Theory of Caritative Caring ................................................................................... 22
AIMS ............................................................................................................................. 24
METHODS ...................................................................................................................... 25
  Participants ............................................................................................................. 26
    Study I .................................................................................................................... 26
    Study II ................................................................................................................... 26
    Study III ............................................................................................................... 26
    Study IV ................................................................................................................. 27
  Setting .................................................................................................................... 27
    Study I .................................................................................................................... 27
    Study II ................................................................................................................... 27
    Study III ............................................................................................................... 28
    Study IV ................................................................................................................. 28
  Data collection ...................................................................................................... 28
    Study I .................................................................................................................... 28
    Study II ................................................................................................................... 30
    Study III ............................................................................................................... 30
    Study IV ................................................................................................................. 30
  Data analysis .......................................................................................................... 31
    Studies I and II .................................................................................................... 31
    Study III ............................................................................................................... 31
    Study IV ................................................................................................................. 32
  Ethical considerations ............................................................................................ 33
FINDINGS ......................................................................................................................... 34
  Study I ..................................................................................................................... 34
  Study II .................................................................................................................... 34
  Study III ............................................................................................................... 35
  Study IV ................................................................................................................. 35
DISCUSSION .................................................................................................................... 36
  Methodological Reflections .................................................................................. 36
Studies I and II .................................................................37
Study III..................................................................................38
Study IV..................................................................................38
Discussion of findings................................................................39
Conclusions and future research .............................................44
REFERENCES ............................................................................46
APPENDIX A: Background Investigation Questionnaire ............54
APPENDIX B: Background Investigation Questionnaire (In Chinese) ....56
LIST OF PAPERS


IV. Ge, L., Wikby, K., & Rask, M. Being eager to be cared for – Lived experience of women with GDM: A qualitative interpretive interview study. In manuscript.
INTRODUCTION

I had worked in the field of maternal and child healthcare for eleven years as a teacher in a university before I came to Sweden for my PhD studies. As I am a woman, it is possible to understand women’s suffering. I want to utilize my professional knowledge to help them to recover from their illnesses and enjoy their lives. As a mother, it makes me sad when I see children suffering from their illnesses, especially congenital diseases. Nowadays, scientific technology is reducing infant mortality and long-term morbidity and improving pregnancy outcomes, and pregnancy is also an opportunity to improve infant health (Rotundo, 2011). I have thus been interested in the healthcare of pregnant women.

I have carried out two research projects in the healthcare field of maternal and child in China. One was about the quality of care of Chinese pregnant women (Ge et al., 2008a, 2008b) using qualitative methodology; the other one was about an investigation and analysis of constitution types of traditional Chinese medicine (TCM) of Chinese pregnant women using quantitative research methodology (Ge et al., 2013) (Constitution types of TCM refers to a comprehensive, relatively stable and intrinsic characteristic of people’s body shape, constitution, physiological and psychological status that is shaped by inheritance and the life environment, such as Yang-deficiency type and Yin-deficiency type.). Quantitative research methodology has its strengths, for example, research findings can be generalized when the data are based on random samples of a sufficient size or when the findings have been replicated on many different populations and subpopulations (Creswell, 2014). The findings may have higher credibility for people, especially the people in power, e.g. administrators, politicians, people who fund programs. However, the methodology has its weaknesses. For example, the findings might not present and reflect human being’s feelings, understandings, experiences and meanings; the produced knowledge might be too abstract and general for direct application to specific local situations, contexts, and individuals (Denzin & Lincoln, 2011). The objects of caring sciences are human beings, who are not only living physical bodies with complex functions, but also an entity of body,
soul and spirit (Eriksson, 1988). Qualitative research studies can reach these aspects of complex behaviors, attitudes, interactions, contexts and their meaning in human society, which cannot be reached by using quantitative research methodology (Pope & Mays, 1995). In China, very few Chinese scholars could use qualitative research methodology to conduct research studies (Chen, 2016). When I conducted my previous studies by using a qualitative approach, I realized that I needed more knowledge about qualitative methodology which I was very curious about. I thus longed for learning it in Sweden and for using this methodology in my research studies when I was enrolled in the PhD program at Linnaeus University in Sweden.

Diabetes has become one of the largest global health emergencies of the 21st century, and the prevalence of diabetes is increasing (International Diabetes Federation, 2015). People with diabetes are at a great risk of developing the disabling and life-threatening health problems such as cardiovascular disease, blindness, kidney failure, and lower-limb amputation (International Diabetes Federation, 2013). According to the Diabetes Atlas of International Diabetes Federation (IDF Diabetes Atlas Group, 2015), China has the highest number of deaths caused by diabetes in the world which has become a huge health problem in China. As one type of diabetes, the prevalence of gestational diabetes mellitus (GDM) is also increasing and is 4.3% among pregnant women in China (Chinese Diabetes Society, 2014). Uncontrolled GDM is associated with serious complications for the mother and the fetus, for instance, obstructed labor and congenital abnormalities (Veerawamy, Vijayam, Gupta, & Kapur, 2012). The lifetime risk for women with a previous history of GDM for developing type 2 diabetes mellitus (T2DM) is nearly 7.5-fold greater than women without GDM (Bellamy, Casas, Hingoran, & Williams, 2009). GDM plays a crucial role in the increasing prevalence of diabetes and obesity, and has thus become a public health priority issue (Veerawamy et al., 2012). Therefore, based on the above together with my previous career experience of maternal and child healthcare, I think it is interesting and important to conduct a research project about GDM.

After deciding to carry out a research project about GDM, I asked myself which type of problems concerning GDM in China I wanted to focus on. I searched in a number of databases when I was formulating my research plan in 2011 and found that no previous studies about GDM using qualitative research methodology had been performed in mainland China. I also found that I had paid attention to the perspectives of authorities and experts about how to take care of pregnant women in my earlier career. I had seldom listened to the voices of pregnant Chinese women. A question arose in my mind at that time: why do pregnant Chinese women often not adhere to health professionals’ advice? After discussing with my supervisors and performing databases searches, I found that beliefs could influence health-related behavior and even produced negative consequences for patients’ health and life (Helman, 2007; Kleinman, 1980), so I decided to carry out studies about beliefs about health.
and illness and health-related behavior in order to explore these reasons. Moreover, patients, health providers and policymakers are particularly interested in the healthcare outcomes, and the measure of quality of care from the patients’ perspectives has played an important role in improving healthcare outcomes (Clancy & Fraser, 2015). I thus decide to explore the quality of care of GDM in China from the perspectives of Chinese women with GDM and what care they wanted to be provided with. However, how could my studies influence health providers and policymakers, and thus their work for the Chinese women? Philosopher Edmund Husserl states that experience is itself the englobing site of consciousness and its intended object where the ideal essence can be found (Husserl & Carr, 1978). The ordinary world can be transcended in the search of the true knowledge by the evidence of lived experience (Jay, 2011), which has been an epistemological foundation for caring science. What it is like to live with an illness and to suffer from a disease can be explored by coming close to the patients’ lifeworlds and questioning medical facts (Hörberg, Ozolins, & Ekebergh, 2011). According to Lindseth and Norberg (2004), we have to start with the lived experience and express it to become aware of its meaning in order to be able to understand and improve the health care practice. This awareness itself often leads to improvements in the healthcare field and I considered that it could be a good way to carry out a study about lived experience of Chinese women with GDM. I hope that health providers and policymakers will better be able to understand the women’s suffering and thus provide more effective healthcare for these women after reading the published articles.

Living with diabetes is like living under a strict regime (Daniells et al., 2003; Hui, Sevenhuysen, Harvey, & Salamon, 2014). It entails that the women with GDM must be aware of and adhere to the guidelines in order to manage and control their disease. It also means that they have to have the necessary self-care skills to follow the instructions: having a healthy diet, doing exercise, and self-monitoring of blood glucose (International Diabetes Federation, 2015). Not following the instruction can lead to negative consequences for the mother and her baby. In order to help the women understand what they have to do and how to live in a way that benefits them and their baby, it is important that health care staff provide them with the information about GDM and support them in conducting the self-care. The Self-Care Deficit Theory of Nursing (Orem, 2001) could thus be useful as a theoretical foundation for healthcare staff for this work. In order to attain good care effects, health care staff have to take into account how to interact with the individual woman with GDM. The Theory of Caritative Caring (Eriksson, Peterson, Zetterlund, & Olsson, 2006) could be useful as a theoretical guidance for healthcare staff in fulfilling their duty.
BACKGROUND

Healthcare system in China

Healthcare reforms have been ongoing in China since the 1980s. The four studies in the thesis were conducted in the social context of mainland China where a healthcare reform was launched in 2009 with the goal of providing affordable and equitable basic health care for all Chinese by 2020 (Chen, 2009; General Office of State Council of China, 2015b). China has under a long period of time built up a healthcare system that covers all urban and rural areas and which consists of three elements: hospitals, primary healthcare institutions, and professional public healthcare institutions (General Office of State Council of China, 2015b). Firstly, public hospitals are the mainstay of the Chinese health care system, which insists on the maintenance of public welfare, as well as fully playing the key role in providing basic medical services, and in the diagnosis, treatment, and care of the emergency, critical, difficult and complicated cases. Public hospitals also undertake personnel training, medical research, medical teaching, and the tasks designated by the Chinese government such as public health services, emergency medical rescue, and foreign aid. In addition to public hospitals, hospitals run by social or private institutions which provide basic medical services competing with public hospitals, and provide high-end services to meet the high-end needs. Secondly, the main duties of primary health care institutions are: to provide basic public health services including prevention, care, health education, and family planning; and to provide the diagnosis and treatment of common diseases, rehabilitation and nursing care, and referral service to hospitals. Thirdly, professional public healthcare institutions include disease prevention and quality control institutions, integrated supervision and law enforcement agencies of healthcare, maternal and child healthcare and family planning service institutions, first-aid centers (stations), and blood banks, etc. (Figure 1).
Figure 1. Healthcare system covering all urban and rural areas in China (General Office of State Council of China, 2015b)
Public hospitals provided more than 90% of the inpatient and outpatient services in the healthcare system in China (Yip et al., 2012). In order to reduce the workload in overcrowded public hospitals and set up the “health-gatekeeper” system, one of the main targets of the healthcare reform launched in 2009 was to improve the primary healthcare delivery system to provide basic health care and referral services to specialist hospitals (Chen, 2009). The reforms have generally improved access to the primary healthcare, but a disparity in different regional healthcare is continually increasing (Wong, Guo, Chiu, Chen, & Zhao, 2016). There are deficiencies in the quality and quantity of the healthcare workforce in economically less developed areas, especially at the village level (Anand et al., 2008; Wong et al., 2016). The greatest inequality in the distribution of healthcare workforce across regions is between urban and rural areas, which is due to different policies, interventions, and other system reforms such as the urbanization, education, and employment reforms in China (Zhou et al., 2015). In accordance with ‘The Outline of the Plan for the National Health-care Service System (2015 - 2020)’ of China (General Office of State Council of China, 2015b), the healthcare problems are still outstanding today. The problems are the lack of healthcare resources, the unreasonable structure and distribution of healthcare resources, fragmented healthcare service system, and the unreasonable expansion of some public hospitals. A study concerning the healthcare services of China also revealed some problems, for example, inefficient use of healthcare resources, unsatisfactory implementation of disease-management guidelines, and inadequate health insurance (Wang, Rao, Wu, & Liu, 2013).

The healthcare system in China provides the maternal healthcare services including presentational, antenatal, childbirth and postnatal care. According to ‘2013 Statistical Yearbook of National Health and Family Planning’ (National Health and Family Planning Commission of the People’s Republic of China, 2013), in 2012, the ratio of systematic maternal manage was 87.6%; the ratio of antenatal care was 95%; the ratio of hospital childbirth was 99.2%; and the ratio of postpartum house visit was 92.6%. However, there is a gap on the quality of maternal care between China and the developed countries such as Sweden. For example, in accordance with data from the WHO (World Health Organization, 2016), the maternal mortality ratio was 27 per 100,000 and neonatal mortality ratio was 5.5 per 1,000 live births in 2015 in China. While in Sweden in the same year, the maternal mortality ratio was 4 per 100,000 and neonatal mortality ratio was 1.6 per 1,000 live births.

Health insurance system in China

The health insurance system in China (General Office of State Council of China, 2015a) is comprised of Urban Employees Basic Medical Insurance (UEMBI), Urban Residence Basic Medical Insurance (URBMI), New Rural
Cooperative Medical Scheme (NRCMS), Medical Financial Assistance (MFA) (Liu & Darimont, 2013), and commercial insurances. In order to guarantee protection for employees, all employers registered in cities and municipalities compulsorily participate in the UEBMI. The total premium per person of UEMBI is contributed by individuals (2% of monthly salary) and employers (6% of the monthly payroll). Payments for the costs of outpatient healthcare come from the contributions paid by each employee and their employer. Payments for the costs of inpatient healthcare and outpatient healthcare for specified severe chronic illnesses (e.g. hypertension, diabetes) come from the contributions paid by employers. The URBMI and the NRCMS offer the basic medical insurance respectively for urban residents who are not employed and rural residents, who voluntarily participate. They are funded through contributions paid by the insured (120 CNY/year\(^1\)) and government subsidies (360 CNY/year), and the participation ratio reached more than 95% in 2015 (General Office of State Council of China, 2015a). They are primarily used for the costs of inpatient treatment and care as well as outpatient treatment for specified chronic illnesses such as hypertension and diabetes. The reimbursement ratio is 50% of outpatient fee and 75% of inpatient fee. The MFA is established in rural and urban areas for poor families or residents in difficult circumstances, who are qualified by local governments. Local governments contribute and maintain the MFA funds. The central government provides financial support to the local governments for maintaining MFA in the poorer central and western areas of China (Liu & Darimont, 2013).

In the Chinese health insurance system, healthcare services related to maternal and child health offer free physical examinations before pregnancy for all couples, free treatment for HIV-infected pregnant women, and free planned child immunization. The fees for the systematic health management for pregnant women and children, hospitalized delivery, postnatal care, and neonatal screening are partly reimbursed through UEMBI, URBMI, and NRCMS, (Guo, Bai, & Na, 2015). Moreover, employees in state organizations, enterprises, institutions and other economic and social organizations may participate in the Maternity Insurance (MI), which provides reimbursement for maternity fees and maternity allowance during the 98 days or 4 months or 6 months of maternity leave (He, Yang, Wang, & Xu, 2014). However, the insurance system for the maternal and child healthcare has some problems. Firstly, it is difficult to transfer the insurance account between regions due to them having different policies; secondly, the maternity benefit from the insurance system varies between different groups of participants. Employees in the state institutions receive the largest benefits, employees in enterprises are the second, and rural and urban residents without a job are the lowest; thirdly, the actual coverage of the MI is inadequate; and fourthly, the division

---

\(^1\) On 12 May of 2016, CNY 100 was equal to SEK 125.20 or USD 15.35.
of responsibility for maternal and child healthcare between the MI and the UEMBI, URBMI, and NRCMS programs is not clear (He et al., 2014).

Chinese culture about pregnancy and postpartum care
Culture encompasses traditions and the way through which people have learned to look at their environment and themselves, as well as the way people should act (Triandis, 1994). Culture is the patterned lifeway, values, beliefs, norms and practices of individuals, groups, or institutions that are learned, shared and transmitted from one generation to another (Leininger & McFarland, 2006). Childbearing is an important time of life transition and social celebration in any society, signaling a realignment of individual psychological and biological states, socio-culture, responsibilities, and social relationships (Andrews & Boyle, 2012). Culture could have a strong impact on pregnancy, childbirth and postpartum care because cultural beliefs may affect the self-perception of a pregnant woman, the self-care approaches which she uses during her pregnancy, childbirth and postpartum time, and her family relationships (La Torra, 1996). Thus, culture may have a strong influence on the psychological and physical health of pregnant women and their babies. The influences could be beneficial, harmful, both beneficial and harmful, or in between, which should be considered by healthcare providers. Some studies however, have also showed that some Chinese women were less likely to follow the cultural practices (Brathwaite & Williams, 2004; Matthey, Panasetis, & Barnett, 2002).

In China, a pregnant woman is usually regarded as an important person to be looked after by her family members due to the ‘one-child policy’ of China (Li et al., 2014), and/or confucianism (Tung, 2010), and/or a Chinese traditional belief that the pregnancy and postpartum time are considered as a vulnerable period that requires rest, protection and recuperation (Lee et al., 2009). The ‘one-child policy’ makes childbirth be a typical ‘once-in-a-lifetime’ event drawing great interest among the extended family members. During the pregnancy, childbirth and postpartum time of a pregnant woman, her parents or parents-in-law usually come to her and look after her together with her husband, for example, cooking, doing the housework, and assisting in taking care of the baby. Moreover, Confucianism, as the most important core value in Chinese culture (Liu, 1959), advocates that family members have a moral duty to look after the vulnerable family member, for instance, a woman in her pregnancy and postpartum time. Confucianism encourages social harmony, and emphasizes interdependence, collectivism, and familism, which involves sacrificing individual needs and rights for the good of the family or group (Tung, 2010). The beliefs most likely influence the family relationships of a pregnant woman. A study about Chinese Americans with T2DM showed the important role of the family: the patients and their family members took on
reciprocal role responsibilities in which family members demonstrated their care through coaching and being involved, and persons with diabetes reciprocated by making healthy choices (Ho, Chesla, & Chun, 2012). Another study showed the Chinese Americans with diabetes often accommodated their families or friends by ensuring that their own food restrictions did not affect family or friends’ enjoyment of food (Chesla & Chun, 2005). To a Chinese pregnant woman, family resources could be important for her adaptation in the early parenthood and the involvement in antenatal and postnatal education programs (Lu et al., 2012).

Moreover, some taboos about pregnancy related to diet and behavior are more or less adhered to by Chinese pregnant women. In a study by Lee et al. (2009), a list of 75 antenatal taboos and the entailed traditional health beliefs among Chinese pregnant women were identified. The dietary taboos include tea, dark-colored food, as well as ‘cold’ food (e.g. watermelon), ‘hot’ food (e.g. lychee), ‘wet-hot’ food (e.g. crab), and ‘toxic’ food (e.g. pond catfish) which are classified metaphysically. The behavior taboos include not moving heavy objects, not wearing high-heeled shoes, and not hammering nails etc. A reduction in sexual activity and desire during pregnancy among Chinese couples is also related to Chinese culture (Fok, Chan, & Yuen, 2005). Chinese pregnant women learnt about the taboos mostly from family, friends and books (Lee et al., 2009). The fears of miscarriage, fetus malformation and fetal ill-health are the key reasons for motivating Chinese women to comply with the taboos (Lee et al., 2009; Zhang et al., 2014).

Following childbirth, there is a traditional Chinese custom about postpartum care, which is called one-month confinement or ‘doing the month’ in China. The doing-the-month practices are based on a belief that childbirth is viewed as a state which disturbs the normal balance between ‘yin’ and ‘yang’ (Liu, Petrini, & Maloni, 2014). The postpartum women are considered to be in a state of ‘yin’ because their body has become vulnerable and ‘cold’ due to the blood loss during the childbirth. In order to restore the balance of ‘yin’ and ‘yang’ in the body, women need to avoid ‘coldness’ or ‘yin’ and supply ‘warmth or hotness’ or ‘yang’, and need to be confined in a room for a good rest in the first month of postpartum. In order to prevent headache and body pain in later life, their physical activity is limited to lying in bed most of the day and avoiding to be exposed to the cold and the wind. They thoroughly cover their body including wearing a hat and socks. Daily personal care, such as bathing and brushing teeth, is restricted to prevent the body from being exposed to the cold. They need to avoid crying, watching television and reading books because such activities are believed to result in poor eyesight in later life. In order to enhance uterine recovery and reduce the possibility of causing infections to the vagina and uterus, sexual intercourse needs to be avoided. In terms of food, women need to eat the foods with ‘yang’ characteristics, for example, Chinese rice wine, egg, chicken, millet, ginger, and brown sugar. Cooking with specific herbs is also believed to facilitate the
Adherence to doing-the-month practices is high among Chinese women (Liu, Maloni, & Petrini, 2014), especially among women living in rural areas (Liu et al., 2006). Chinese women believe that the doing-the-month practices will help restore their health and protect them from future diseases (Holroyd, Twinn, & Yim, 2004). Failure to comply with these practices is believed to cause permanent damage to women’s health. The result of a study showed that the custom of ‘doing the month’ linked the events of childbirth, the health status of women, and family relationships, and facilitated women’s recovery and baby care (Cheung et al., 2006). However, it does not mean that all Chinese women share the same beliefs and perform the doing-the-month practices. A few studies showed that some Chinese women were ambivalent, questioned and only partially followed the doing-the-month practices (Gao, Chan, You, & Li, 2010; Holroyd, Lopez, & Chan, 2011). A study showed that Chinese women after ‘doing the month’ had an exceptionally low level of aerobic endurance and lower-body muscle strength compared with that of the average level of Chinese women of the same age (Liu et al., 2014). Another study about women’s perceptions of stress and support in ‘doing the month’ revealed that this was not a necessary protection and support for the postpartum women (Leung, Arthur, & Martinson, 2005).

Gestational diabetes mellitus

In accordance with the latest IDF Diabetes Atlas (International Diabetes Federation, 2015), gestational diabetes mellitus (GDM) or diabetes mellitus in pregnancy is classified when hyperglycaemia is first detected at any time during pregnancy. Women with slightly elevated blood glucose levels are classified as having GDM. It is screened by using a 75g oral glucose tolerance test (OGTT) between the 24th and 28th weeks of pregnancy. The diagnosis criteria are: fasting plasma glucose 5.1-6.9 mmol/L (92-125 mg/dl); one-hour plasma glucose ≥ 10.0 mmol/L (180 mg/dl) following the oral glucose load; and two-hour plasma glucose 8.5-11.0 mmol/L (153-199 mg/dl) following the oral glucose load. GDM is diagnosed if one or more of the criteria are met at any time in pregnancy.

The high risk factors for GDM include: non-European ethnicity, obesity, advanced maternal age, personal history of GDM, family history of diabetes, and polycystic ovary syndrome (Voormolen, Abell, James, Hague, & Mol, 2016). The pathogeny of GDM is that the action of insulin is probably blocked by hormones produced by the placenta, which develops a resistance to insulin and subsequent high blood glucose (International Diabetes Federation, 2013). GDM is an independently correlative factor of adverse pregnancy outcomes which could be primary cesarean, preeclampsia, neonatal adiposity (Catalano
et al., 2012), and neonatal glycaemia (Metzger et al., 2010). Even if GDM normally disappears after birth, women who have been previously diagnosed will be at higher risk of developing GDM in subsequent pregnancies and T2DM later in their life. Babies born by mothers with GDM also have a greater risk of developing T2DM in their teens or early adulthood (International Diabetes Federation, 2015). The adverse outcomes can, however, be controlled through a healthy diet, gentle exercise and blood glucose monitoring, and in some cases by insulin or oral medication (International Diabetes Federation, 2015). The lifestyle management entails women with GDM being proficient in self-care skills (Ali & Dornhorst, 2011) and conducting self-care (Orem, 2001). Sufficient evidence supports that GDM is an omen of T2DM, GDM could thus be seen as the opportunity of a lifetime to change the future health of women (Bentley-Lewis, 2009).

Quality of care for women with GDM

Quality of care is a multidimensional concept based on a correct diagnosis, appropriate treatments, care process both at the team level and across teams, and how different healthcare organizations relate to each other and to the external environment such as healthcare insurance (Clancy & Fraser, 2015). Achieving high quality of care is a major priority for most stakeholders and there has been a growing interest in measuring the quality of an entire episode of care rather than each individual service (Clancy & Fraser, 2015). The patients’ perspective has played an important role in the evaluation and improvement of these measures. Quality of care from the patients’ perspective can be formed through patients’ encounters with healthcare services and be assessed based on their norms, expectations and experiences (Wilde, Starrin, Larsson, & Larsson, 1993). According to a grounded theory study (Wilde et al., 1993), quality of care from a patient perspective could be understood in the light of two conditions. One was the resource structure of the care organization which consisted of person-related (caregivers), and physical and administrative environmental qualities (infrastructure components). The second was the patients’ preferences including their rational sense for some sort of order, predictability and calculability in life, and their expectations of being taken in account. Another study showed that good quality of care had the individualized and patient-focused character related to need; and it was provided in a humanistic way by staff who bring involvement, commitment and concern, which were indications of a caring relationship. Conversely, care was described as ‘Not so good’, when being provided in an impersonal manner, being routine-based, being unrelated to need, and distanced staff who do not know or involve patients (Attree, 2001). Eriksson states that the core of the caring relationship is an open invitation that contains an affirmation that the other is always welcome (Eriksson, 1993).
A systematic review identified that the determinants of and barriers against improving the quality of GDM care were related to the healthcare providers, the healthcare systems and the patients, such as limited access to and waiting time when meeting healthcare providers, and the lack of adequate practical information about diet and exercise (Nielsen, Kapur, Damm, de Courten, & Byghjørg, 2014). Another study based on experiences from World Diabetes Foundation supported GDM projects in 10 low- and middle-income countries (Nielsen, de Courten, & Kapur, 2012) showed that barriers to improving maternal health related to GDM nominated by project implementers included: lack of trained healthcare providers, especially female doctors; high rate of staff turnover; lack of standard protocols, consumables and equipment; lack of financing of health services and treatment; lack of or poor referral systems, feedback mechanisms and follow-up systems; distance to health facility; perceptions of female body size and weight gain/loss in relation to pregnancy; practices related to pregnant women’s diet; social negligence of women’s health; lack of decision-making power among women regarding their own health; stigma; role of women in society and expectations that the pregnant woman moves to her maternal home for delivery.

Healthcare for women with GDM in China

GDM screening for all pregnant women in China is held in 24-28th weeks of pregnancy. A ‘one-step approach’ is recommended to well-resourced medical institutions, and a ‘two-step approach’ is recommended to low-resourced rural areas in order to reduce the cost of GDM diagnosis. The ‘one-step approach’ refers to GDM diagnosis on the basis of the results of OGTT. The diagnosis can be made if one or more of the following glucose levels of OGTT are elevated: fasting ≥ 5.1 mmol/L, 1 h ≥ 10.0 mmol/L, and 2 h ≥ 8.5 mmol/L. The ‘two-step approach’ refers to ‘If the fasting plasma glucose is ≥ 5.1 mmol/L, GDM can be diagnosed and if < 4.4 mmol/L, GDM is unlikely. Women with a result of ≥ 4.4 and ≤ 5.0 mmol/L will still require an OGTT.’(Zhu & Yang, 2013).

In accordance with China Guideline for T2DM (Chinese Diabetes Society, 2014), the pregnant women will receive the routine management of GDM as soon as they are diagnosed as GDM by obstetrician at an obstetric clinic. They are given suggestions to have an appointment with a dietician and/or a diabetologist at the obstetric clinic every 1-2 weeks. The management of GDM before birth includes: health education, diet control, self-monitoring blood glucose and urine acetone body, controlling blood pressure, examining renal function, eye fundus and blood lipid every three months, and fetus monitoring. The major treatment methods of GDM are nutritional counseling, dietary intervention and exercise. Insulin treatment will be used for the
pregnant women whose dietary interventions are unsuccessful in lowering blood glucose (Wei & Yang, 2012). (Table 1)

Table 1. Healthcare management of women with GDM in China

<table>
<thead>
<tr>
<th>Variable</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare staff</td>
<td>Obstetrician and midwife at outpatient clinic: the conventional antenatal care such as physical body examination and health education</td>
</tr>
<tr>
<td></td>
<td>Dietician: nutrition counseling</td>
</tr>
<tr>
<td></td>
<td>Diabetologist: diabetes education and insulin treatment</td>
</tr>
<tr>
<td>Antenatal care</td>
<td>Screen in 24th-28th gestational weeks</td>
</tr>
<tr>
<td>routine for GDM</td>
<td>Referral to dietician after GDM is diagnosed</td>
</tr>
<tr>
<td></td>
<td>Suggest appointment to see diabetologist</td>
</tr>
<tr>
<td>GDM education</td>
<td>Provide GDM education based on the educational and cultural backgrounds of pregnant women</td>
</tr>
<tr>
<td>Routine management</td>
<td>Women meet a dietician and/or a diabetologist once every one or two weeks</td>
</tr>
<tr>
<td>Treatments</td>
<td>Nutrition counseling, dietary intervention and exercise</td>
</tr>
<tr>
<td></td>
<td>Insulin treatment if dietary intervention was unsuccessful in lowering blood glucose</td>
</tr>
<tr>
<td>Goals for glycemic control</td>
<td>Pre-prandial capillary glucose concentration 3.3–5.3 mmol/L</td>
</tr>
<tr>
<td></td>
<td>1-hour post-prandial capillary glucose concentration ≤ 7.8 mmol/L or 2-hour post-prandial capillary glucose concentration ≤ 6.7 mmol/L</td>
</tr>
<tr>
<td></td>
<td>HbA1C &lt; 6.0%</td>
</tr>
<tr>
<td>Frequency of SMBG*</td>
<td>If possible, test fasting and post-prandial capillary glucose concentration 4-6 times per day</td>
</tr>
</tbody>
</table>

1 In accordance with China Guideline for T2DM (Chinese Diabetes Society, 2014)  
* SMBG, self-monitoring of blood glucose
THEORETICAL FRAMEWORK

The thesis is based on the ontology and epistemology of caring science. Jean Watson maintains that caring is a science that encompasses a humanitarian, human science orientation, human caring processes, phenomena, and experiences, which are relevant for all the health, education, human service fields and professions (Watson, 1999). The thesis was grounded in a relational ontology of being-in-relation, and a world view of unity and connectedness of all. The epistemological investigations of the thesis presented clinical and empirical inquiries about GDM by subjective and objective experiences, as well as reflections and interpretations.

Two theories were used as the theoretical foundation of the four studies in the thesis. One is Dorothea Elizabeth Orem’s Self-Care Deficit Theory of Nursing (Orem, 2001); the second is Katie Eriksson’s Theory of Caritative Caring (Eriksson et al., 2006). Self-care behavior is a human regulatory function that individuals must perform with deliberation for themselves to maintain their life, health, development, and well-being (Orem, 2001). Because women with GDM entail being proficient in self-care skills (Ali & Dornhorst, 2011), their self-care demands are greater than their self-care agencies and thus self-care deficits are produced. Nursing agency compensates the deficit and helps women to conduct self-care. During the process of compensation, caritative caring can improve the quality of nursing agency by tending, playing and learning (Eriksson et al., 2006). The corresponding lived experience of women with GDM, related to illness, regimes and care, is influenced by a number of factors such as cultural roles, beliefs, and social and professional support (Devsam, Bogossian, & Peacock, 2013) (Figure 2). The thesis aimed to explore beliefs, self-care behavior, quality of care, and lived experience about GDM, and thus improve the healthcare of GDM in China. Helman states that healthcare cannot be studied isolated from the aspects of society and culture (Helman, 2007). Culture, as a characteristic way of viewing people’s surrounding environment (Triandis, 1994), affects the explanations of illness causation (Helman, 2007) and care-seeking behavior (Kleinman, 1980). The explanations and care-seeking behavior influence the
beliefs of women with GDM and further guide their strategies for self-care behavior (Hjelm, Bard, Nyberg, & Apelqvist, 2005; Hjelm, Berntorp, & Apelqvist, 2012). In order to help women with GDM perform better self-care, Orem’s Self-Care Deficit Theory of Nursing (Orem, 2001) could be suitable as a theoretical foundation to guide healthcare providers and women on the involvement related to self-care. During the interaction between healthcare providers and women, Eriksson’s Theory of Caritative Caring (Eriksson et al., 2006) could help healthcare providers reach the goal of high quality of care.

Figure 2. Self-care Model of Caritative Caring based on Orem’s Self-Care Deficit Theory of Nursing (2001) and Eriksson’s Theory of Caritative Caring (2006)

1Self-Care Deficit Theory of Nursing (Orem, 2001)
2Theory of Caritative Caring (Eriksson et al., 2006)
3According to a study entitled ‘An interpretive review of women’s experiences of gestational diabetes mellitus: Proposing a framework to enhance midwifery assessment’ (Devsam et al., 2013)
Self-Care Deficit Theory of Nursing

The goal of Orem’s Self-Care Deficit Theory of Nursing is to compensate for or overcome the known or emerging health-associated limitations of legitimate patients for self-care. In the theory, the purpose of nursing is to help the patient accomplish therapeutic self-care, help the patient move toward responsible self-care, and help the patient’s family members or other persons who attend the patient become competent in providing and managing the patient’s care using appropriate nursing supervision and consultation. Moreover, self-care in the theory is an individual regulatory function that persons must deliberately perform themselves or must have performed for themselves to maintain life, health, development, and well-being. When self-care is distinct from the regulation types of human functioning and development, it must be learned and be deliberately performed. For persons who are socially dependent and unable to meet their therapeutic self-care demand, self-care deficit is produced; and nursing agency, i.e. the developed capabilities of persons educated as nurses, is needed. Nurses may act, know, and help persons to meet their therapeutic self-care demands and to regulate the development or exercise of their self-care agency. Methods could be acting for or doing for another, guiding and directing, providing and maintaining an environment that supports personal development, and teaching. (Orem, 2001)

Theory of Caritative Caring

A human being is an entity of body, soul and spirit (Eriksson, 1988). According to Eriksson, health is defined as soundness, freshness, and well-being, and implies being whole in body, soul and spirit (Eriksson, 1989). Health and suffering belong together, and they are integrated into each other and constantly present in a human being’s life (Eriksson, 1997). Suffering related to illness is experienced in connection with illness, treatment and care. Caring, as various expressions of love and charity that is caritas, may alleviate suffering and serve life and health. However, when the patient is exposed to suffering caused by care or the absence of caring, the patient may experience not being taken seriously, not being welcome, being blamed, or being subjected to an exercise of power (Eriksson et al., 2006).

The context of the meaning of caring is constituted by caring communion between the patient and the health provider, which is characterized by intensity and vitality, and by warmth, closeness, rest, honesty, respect and tolerance (Eriksson, 1992). Fundamental modes of caring communion are eye contact, listening and language. The actions of caring contain invitations to deep communion and are expressed by tending, playing, and learning in a spirit of faith, hope and love. The characteristics of tending are warmth, closeness, and touch; playing is an expression of exercise, testing, desires and wishes, and creativity and imagination; and learning is aimed at growth and
change. True care is “not a form of behavior, not a feeling or state. It is to be there - it is the way, the spirit in which it is done and this spirit is caritative” (Eriksson, 1988, P. 4).
AIMS

The overall aim of the thesis was to explore the perspectives of Chinese women with gestational diabetes mellitus focusing on their beliefs about health and illness and self-care behavior, the quality of care in China, and their lived experience.

Special aims for the studies

I: To explore beliefs about health and illness and health-related behavior among urban Chinese women with gestational diabetes mellitus in a Chinese socio-cultural context.

II: To explore beliefs about illness and health and self-care behavior among women with gestational diabetes mellitus living in a rural area of the south east of China.

III: To explore the quality of care of gestational diabetes mellitus and how to improve it from the perspectives of women with GDM in China.

IV: To explore the lived experience of Chinese women with gestational diabetes mellitus in the south east of China.
METHODS

Qualitative exploratory studies were conducted and the data was collected in individual interviews (Flick, 2009). The methods used in the four studies in the thesis are presented in Table 2.

Table 2. Overview of methods for the four studies in the thesis.

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Sampling</th>
<th>Participants</th>
<th>Data collection</th>
<th>Data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Qualitative</td>
<td>Purposeful sampling&lt;sup&gt;2&lt;/sup&gt; by interview&lt;sup&gt;1&lt;/sup&gt;</td>
<td>15 women with GDM living in an urban area</td>
<td>Semi-structured individual interviews</td>
<td>Qualitative content analysis&lt;sup&gt;4&lt;/sup&gt;</td>
</tr>
<tr>
<td>II</td>
<td>Purposeful</td>
<td>sampling&lt;sup&gt;2&lt;/sup&gt;</td>
<td>17 women with GDM living in a rural area</td>
<td>Semi-structured individual interviews</td>
<td>Qualitative content analysis&lt;sup&gt;4&lt;/sup&gt;</td>
</tr>
<tr>
<td>III</td>
<td>Consecutive</td>
<td>sampling&lt;sup&gt;1&lt;/sup&gt;</td>
<td>44 women with GDM living in both rural and urban areas</td>
<td>Semi-structured individual interviews</td>
<td>Qualitative content analysis&lt;sup&gt;5&lt;/sup&gt;</td>
</tr>
<tr>
<td>IV</td>
<td>Snowball</td>
<td>sampling&lt;sup&gt;2&lt;/sup&gt;</td>
<td>18 women with GDM living in both rural and urban areas</td>
<td>Individual narrative interview</td>
<td>Phenomenological hermeneutics&lt;sup&gt;6&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>1</sup>By Flick (2009); <sup>2</sup>By Patton (2002); <sup>3</sup>By Tassie et al. (2010); <sup>4</sup>By Mayring (2000); <sup>5</sup>By Graneheim & Lundman (2004); <sup>6</sup>By Lindseth & Norberg (2004)
Participants

Study I
Purposeful sampling (Patton, 2002) was used in the study by seeking women from high, medium and low educational backgrounds. Inclusion criteria were: age ≥ 16 years, diagnosis of GDM (Medical Service Specialty Standard Committee of Ministry of Health, China, 2012) without other pregnancy complications, in the 34-38th gestational weeks, registered permanent residence in a provincial capital city in the south east of China and speaking Mandarin Chinese without speech impediment. Fifteen women with GDM, from different educational backgrounds, were interviewed. The median age (range) was 30 (23-37) years. All of them were married and acquired GDM for the first time and most of them were nulliparous. Approximately 50% were employed including two women on sick-leave and 50% were born in the city, while the others were migrants who had moved to the city from other parts of China. Most of these women used diet control and exercise as their GDM regime; one woman used insulin; and one woman did not use treatment methods.

Study II
Purposeful sampling (Patton, 2002) was used in order to seek women from high, medium and low educational backgrounds. Inclusion criteria were age ≥ 16 years, diagnosis of GDM (Medical Service Specialty Standard Committee of Ministry of Health, China, 2012) without other pregnancy complications, in the 34-38th gestational weeks, living in a rural area, and speaking Mandarin Chinese without speech impediment. Seventeen participants were interviewed in this study whose median age was 27.5 (range 21-37) years, comprising six women with a high educational level, five with a middle educational level and six with a low educational level. Most of them were nulliparous and unemployed, and almost all of them used diet control and exercise for treating their GDM. Two women had GDM symptoms such as thirst and frequent urination.

Study III
A consecutive sampling procedure (Tassie et al., 2010) was used in the study. The inclusion criteria were: age ≥ 16 years, diagnosis of GDM (Medical Service Specialty Standard Committee of Ministry of Health, China, 2012) without other pregnancy complications, in 34th - 38th gestational weeks, and speaking Mandarin Chinese without speech impediment. Forty-four women with GDM living in both rural and urban areas were interviewed, of which 28 women were from a provincial hospital and 16 women were from a municipal hospital. The median age of the women was 30 (range 21 - 40) years. In terms
of GDM regime, a majority of these women used diet control and exercise; one woman used insulin; and one woman did not use treatment methods at all.

Study IV
A snowball sampling technique was used in the study to recruit narrators (Patton, 2002), and inclusion criteria were age ≥ 18 years, diagnosis of GDM (Medical Service Specialty Standard Committee of Ministry of Health, China, 2012) without other pregnancy complications, in the 34th gestational week – the 4th postpartum week, and speaking Mandarin Chinese without speech impediment. Eighteen women from rural and urban areas, the median age 31 (range 23 - 37) years, took part in the study, and all of them were married. Among the women, one woman relapsed in GDM and four women had GDM symptoms such as thirst or ketoacidosis. The women used diet control, exercise and insulin as their treatment methods, except for one woman who did not use any treatment.

Setting

Study I
Study I was conducted at the obstetric clinic of a province hospital in a provincial capital city in the south east of China named ‘Fuzhou’ with a population of 6.7 million (Fuzhou Municipal Bureau of Statistics & Fuzhou Investigation Team of State Bureau of Statistics, 2015). The province hospital was located in the center of Fuzhou. It provided the best medical service for maternal and children’s health care in the province. About 30 health professionals worked in the obstetric clinic including obstetricians, midwives, nurses, assistant nurses, a diabetologist, and a dietician. Pregnant women visited obstetricians for routine antenatal care. An OGTT was applied to diagnose GDM at this hospital. Pregnant women would be offered the opportunity to see a dietician and/or a diabetologist for receiving the GDM care over and above the routine antenatal care after she was diagnosed with GDM. Routine health education lectures about antenatal care including GDM education were provided in this hospital.

Study II
The study was conducted at a municipal hospital located in the outskirts of a provincial capital city named ‘Fuzhou’ in the south east of China. Women with GDM from rural areas were in the catchment area of the obstetric clinic or ward at this hospital. The obstetric clinic was generally manned by two obstetricians each day and a dietician one morning a week, but no diabetologist worked there. Both women with GDM and pregnant women without complications met an obstetrician or a dietician. The obstetric ward was manned by obstetricians, midwives, nurses and assistant nurses, where
women with and without complications gave birth, were treated and cared for. GDM education was provided at both the obstetric clinic and the ward by obstetricians, a dietician, and midwives. An OGTT or a “two-step approach” was applied to diagnose GDM at this hospital.

Study III
The study was conducted at two settings. One was the obstetric clinic of the provincial hospital where Study I was conducted and the other was the obstetric clinic and the obstetric ward of the municipal hospital where Study II was conducted.

Study IV
The interviews in Study IV were performed at participants’ work places, or at the obstetric clinic or ward at a provincial hospital of the provincial capital city named ‘Fuzhou’ in the south east of China. The hospital was located in the city center, but was not the same provincial hospital as where Study I was conducted. The obstetric clinic was generally manned by four obstetricians and a midwife each day without a dietician or diabetologist. Both women with GDM and pregnant women without complications met an obstetrician there for antenatal care. The obstetric ward of the hospital was manned by obstetricians, midwives, nurses and assistant nurses, where women with and without complications gave birth, were treated and cared for. An OGTT was used to diagnose GDM at this hospital. GDM education was provided by obstetricians and midwives.

Data collection

Study I
An interview guide based on previous studies (Hjelm et al., 2005, 2012) was used in Study I, which was developed and modified for GDM in the Chinese context. It included background data and nine key questions about GDM concerning beliefs about health and illness, and health-related behavior, i.e. self-care and care seeking. The questions reflected Helman’s lay theories of illness causation (Helman, 2007) and Kleinman’s model of health-seeking behaviors (Kleinman, 1980) (Table 3). The interview guide was translated from English to Chinese by a native female Chinese who is a teacher of maternal care with bilingual skills (LG), and was then translated back from Chinese to English independently by a professional translator (a native Chinese). The translation of the Chinese edition to English and the original English edition were compared and discussed among the authors, who work with diabetes research (KH, LG) and transcultural nursing research (KH, BA, EH, LG). Some of the questions in the Chinese edition, after the pilot interviews, were subjected to minor adjustments for the purpose of
clarification based on cultural adaptation without changing the meaning by using synonyms. For example, in the interview question ‘What does health mean to you?’ At the first time, the question was translated as ‘What does health denote or connote to you?’ (健康对你意味着什么?). Participants answered as ‘Health, health is certainly very important. I don’t know what health means to me. I didn’t think about it.’ and ‘The concept is too broad. Just well-being. Nothing can be said. The scope is too broad.’ We did not receive sufficiently good answers from the women about this question. This was possibly due to the women not understanding this Chinese sentence well. We decided to use another sentence to express the same meaning of this question. We used ‘What is health for you?’ (对你说来讲健康是什么呢?). The responses to this question were much richer than those to the previously formulated question. This version of the question in Chinese was then used.

The author received qualitative research skills training prior to the study and had continual discussions with co-authors throughout the study.

Table 3. The nine questions in the interview guide.

<table>
<thead>
<tr>
<th>Beliefs about health¹</th>
<th>1. What does health mean to you?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. What factors are good for your health/your baby’s health being as you have GDM?</td>
</tr>
<tr>
<td></td>
<td>3. What are the negative factors for your health/your baby’s health being as you have GDM?</td>
</tr>
<tr>
<td>Beliefs about illness¹</td>
<td>4. What do you think has caused GDM?</td>
</tr>
<tr>
<td></td>
<td>5. What did you think when you were informed about having GDM?</td>
</tr>
<tr>
<td></td>
<td>6. What do you think about your own/your baby’s future health related to GDM?</td>
</tr>
<tr>
<td>Health-related behavior</td>
<td>7. Who did you seek advice or care from?</td>
</tr>
<tr>
<td></td>
<td>8. What do you do for your health-related to GDM?</td>
</tr>
<tr>
<td></td>
<td>9. Do you follow the advice you get? If not, why?</td>
</tr>
</tbody>
</table>

¹Reflected Helman’s lay theories of illness causation (Helman, 2007).
²Reflected Kleinman’s model of care seeking behaviors (Kleinman, 1980).

Data were collected between May and July 2012. Women, who matched the inclusion criteria, were invited to participate by an obstetrician working at the clinic. Each woman was interviewed face to face on one occasion in a room at the clinic of the provincial hospital after she had consented to participate. Each interview lasted between 40–60 minutes and was documented with a digital audio recorder, transcribed verbatim in Chinese, and then translated from Chinese to English. Two pilot interviews were initially conducted, and then discussed among the authors in order to improve the interviewer’s interviewing skills and test the questions. These interviews were included in this study based on the value of the data.
Study II
Data were collected between April and July 2013 with the same interview guide as had been used in Study I (Table 3). The interview questions were divided into three areas: beliefs about health, beliefs about illness, and health-related behavior. Women who matched the inclusion criteria were invited to participate in by an obstetrician working at the obstetric clinic or a nurse working at the obstetric ward. The individual interviews were conducted face to face in a room at the hospital after the women had consented to participate and written informed consent was obtained. Each interview lasted between 40–60 minutes and was documented with a digital audio recorder, transcribed verbatim in Chinese, and then translated from Chinese to English.

Study III
Study III was carried out between May and July 2012 as well as April and July 2013. An interview guide with open-ended questions about the quality of GDM care, which was developed by the authors, was used for data collection (Table 4). Women, consecutively registered in clinics or wards, who matched the inclusion criteria, were orally invited to participate in the study. The women were interviewed face to face in a room at the hospital after they had agreed to participate and had signed the written informed consent. Each interview, which lasted 30–40 minutes, was documented with a digital audio recorder, and then transcribed verbatim in Chinese and translated from Chinese to English.

Table 4. Interview guide: Questions about quality of GDM care.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>What is your experience of the accessibility of GDM care when you need it?</td>
</tr>
<tr>
<td>2.</td>
<td>What do you expect from the one/those who you are seeking advice/care from?</td>
</tr>
<tr>
<td>3.</td>
<td>Is there anything that you experience as being difficult in your contact with the healthcare staff who are taking care of you?</td>
</tr>
<tr>
<td>4.</td>
<td>How do you think good care for a person with GDM should be designed?</td>
</tr>
<tr>
<td>5.</td>
<td>Is there anything you think that you are lacking in terms of the care you receive for your GDM?</td>
</tr>
<tr>
<td>6.</td>
<td>How do you think a good carer should behave?</td>
</tr>
</tbody>
</table>

Study IV
Data was collected between August and December 2014. The information about women with GDM was obtained through the recommendation of participants or two midwives who worked at the provincial hospital in 'Fuzhou'. Women recommended for the study were orally invited to participate in the study. The participants took part in the study voluntarily after written informed consent was obtained. Open-ended questions about the lived
experience of women with GDM were developed by the authors (Table 5). Individual narrative interviews were conducted face to face, and each interview lasted between 30–50 minutes and was recorded with a digital audio recorder, and then was transcribed verbatim in Chinese and translated from Chinese to English. Three pilot interviews were initially conducted, and then discussed among the authors in order to improve the interviewer’s narrative interviewing skills. The pilot interviews were included in this study based on its presentation of the participant’s lived experience.

Table 5. Interview questions about the lived experience of women with GDM.

| 1. What are your experiences after you knew that you got GDM? |
| 2. What do you think about GDM? |
| 3. What are your physical changes after you got GDM? |
| 4. What are your emotional changes after you got GDM? |
| 5. How did you manage your GDM? |
| 6. How does GDM affect your life? (family and work) |
| 7. What is your feeling at the beginning when you got GDM? |
| 8. What is your feeling during the time living with GDM? |

Data analysis

Studies I and II

Data were analyzed with qualitative content analysis according to Mayring (Mayring, 2000), which includes inductive category development and deductive category application. Firstly, during the process of inductive category development, the material was divided in accordance with the question areas in the interview guide. Categories were formulated by reading each sentence of the text, and were condensed into main categories by combining those with similar meanings. The main categories were summarized in order to gain a holistic picture. Secondly, the lay theories of illness causation (Helman, 2007) and the model for care-seeking behavior (Kleinman, 1980) were applied as the categories for the analysis of the texts during the process of deductive category application. Helman’s theory (Helman, 2007) included aspects of illness causation attributed to: the individual world, the social world, the natural world and the supernatural world. Kleinman’s model (Kleinman, 1980) included the popular sector, the folk sector and the professional sector. The analysis process and the cultural issues were discussed among authors in order to gain reliability.

Study III

Qualitative content analysis according to Graneheim and Lundman (2004) was used in the study, which included manifest and latent content analysis. The
transcribed text was read through several times in order to obtain a sense of the whole, and was then divided into meaning units which were considered as words or sentences containing aspects related to the context. The meaning units were condensed, abstracted and labeled with codes. Codes were compared based on differences and similarities, and sorted into categories that shared a commonality of codes and constituted the manifest content. The codes and categories were discussed and reflected on by the authors, whilst the socio-cultural context was also considered. Finally, the underlying meanings in categories were linked together, which were formulated into themes, constituting the latent content.

Study IV

Phenomenological hermeneutics (Lindseth & Norberg, 2004) based on Ricoeur’s phenomenological hermeneutical interpretation theory (Ricoeur & Thompson, 1981) was used as the analysis method. The analysis process consisted of three phases: naïve reading, structural analysis, and comprehensive understanding. In the naïve reading, the transcribed interview texts were first merged into one text, and then the text were read several times as open-minded as possible for catching its meaning as a whole. During the naïve reading, the maintenance of a phenomenological attitude was important in order to formulate a naïve understanding of the text in phenomenological language. Thematic structural analysis was used in the second analysis phase, i.e. the structural analysis. The whole text was read and divided into meaning units. The meaning units were read through and reflected on against the background of the naïve understanding, then were condensed and expressed in everyday words as concisely as possible. All the condensed meaning units were read through and reflected on regarding similarities and differences, and then were sorted. The similar condensed meaning units were further condensed and abstracted to form sub-themes. During the condensing and abstracting process, the text was viewed as objectively as possible, and contents that did not seem to be related to the research question were separated but were still needed for further consideration. The sub-themes were reflected on and formulated in such a way as to present what the text talked about, which led to the formulation of themes.

The themes were reflected on based upon the naïve understanding and were questioned as to whether the themes validated or invalidated the naïve understanding. If the structural analysis invalidated the naïve understanding, the whole text would be read again and a new naïve understanding would be formulated and checked by a new structural analysis. The process was repeated until the naïve understanding was indeed validated by the structural analysis. In comprehensive understanding, i.e. the third analysis phase, the whole text was read again as openly as possible with the naïve understanding and the validated themes in mind. The themes and sub-themes were reflected on, summarized, and related to the research question and the context of the
study. Imagination and preunderstanding may be used during the process. Relevant literature that seemed appropriate for helping to revise, widen and deepen the understanding were discussed between authors based on the meaning of the lived experience. The literature that could mutually illuminate the interview text was chosen for interpreting the text. The text was kept as close as possible as a whole again and re-contextualized in the light of the literature, and a comprehensive understanding of the text, i.e. the main theme, was attained by focusing on the possibilities of living in the world that the interview text opened up. According to Ricoeur (Ricoeur, 1976; Ricoeur & Thompson, 1981), a text could probably be interpreted in different ways, but understanding and explanation should be understood dialectically related to each other, overlap and interact with each other in the interpretation. Discussions were performed between authors in order to achieve the dialectical interpretation of the text and the meaning of the lived experience.

Ethical considerations

The four studies in the thesis were approved by the Ethical Committee of Fujian University of Traditional Chinese Medicine based on the ethical principles of autonomy, non-maleficence, beneficence, and justice (World Medical Association, 2013). The hospital management approved the studies prior to their commencement. Participants were firstly informed of the aim and the conducting procedures of the study when they were recruited. They took part in the study voluntarily after written informed consent was obtained, and were assured of the right to withdraw at any time without negative consequences. The interviewer was not involved in any work at this obstetric clinic. All transcripts were anonymous, and analysis of data and presentation of results were carried out in such a way that no individual could be identified.
FINDINGS

Study I

The women with GDM living in an urban area in China were worried or feared about the negative influence of GDM, however, some of them believed in “letting nature take its course” and “living in the present”. The beliefs about health and illness among the women in the study were organized into the three categories of the individual, social and natural worlds. Their care-seeking behaviors varied between the professional, the popular and the folk sectors. Diet control, exercises and self-monitoring of blood glucose were their main self-care methods, but they lacked sufficient knowledge about GDM and sought a balance between following the professionals’ advice and avoiding practical difficulties. Supernatural measures, nutritional supplements and household remedies were also used.

Study II

The beliefs about GDM among the women living in a rural area in China were found to be bidirectional. Some of them feared the illness and its negative influence on health, while others believed that it was not a severe illness and disbelieved the diagnosis of GDM. They related their illness and health to the individual, social and natural factors. They mainly sought help from the professional sector, but did not fully comply with the professionals’ advice. Diet control and exercise were their main self-care measures, but none of them self-monitored their blood glucose. They demonstrated their misunderstanding about diet control and self-monitoring of blood glucose. This study highlighted the serious lack of knowledge, lower level of risk awareness and poor self-care behavior among women in this group.
Study III

Three themes emerged from the analysis: Lack of professional care resources for GDM, Lack of high-quality personalized care for women with GDM, and Women’s suggestions about how to improve GDM care. The suggestions were: ‘Increasing the number of staff and material resources for antenatal care’, ‘Optimizing the clinical pathway of GDM based on the current healthcare resources’, ‘Expanding healthcare education about pregnancy and GDM’, ‘Improving professional GDM care’ and ‘Providing a humanistic care approach’. From the perspectives of the Chinese women with GDM, they lacked high-quality GDM care and the core problem was an imbalance between over-stretched hospitals and low-efficiency under-utilized primary healthcare centers.

Study IV

The lived experience of the women with GDM living in China was formulated into a main theme: ‘Being eager to be cared for’. The main theme was derived from four themes and ten sub-themes. The first theme was ‘Being stricken by emotional chaos’ with one sub-theme: experiencing different emotional reactions. The second theme was ‘Wishing to receive caring GDM care’, which included three sub-themes: seeking help, perceiving the importance of the support from health professionals and husbands, and perceiving the lack of caring GDM care from professionals. The third theme was ‘Constructing personal beliefs about GDM and corresponding inner conflict or unawareness’, which contained three sub-themes: believing GDM should be treated seriously, believing GDM was not a severe illness, and believing GDM was nothing to worry about. The last theme was ‘Trying to adjust and adapt to life with GDM’ with three sub-themes: gradually adapting to being a mother with GDM, trying to keep a balance in life, and continuously reflecting about the consequences of having GDM. From the lived experience of the Chinese women in the study, the eagerness for caring care was highlighted.
DISCUSSION

Methodological Reflections

Qualitative methodology with individual interviews was used in the four studies in this thesis. It could thus be seen as a limitation that a mixed-method methodology was not used in the thesis, i.e. a methodology incorporating elements of both qualitative and quantitative methodology (Creswell, 2014). Only using qualitative methodology in the studies to explore the research questions could weaken the transferability of the findings of the thesis. However, the thesis demonstrated trustworthiness in the qualitative research approach by using different qualitative analysis methods, different sampling and interview techniques (Table 2), and discussions between authors with different backgrounds (Shenton, 2004). It was also positive that the interviews and analysis were conducted by a native Chinese author who had the same cultural background and used the same language as the participants (Squires, 2008), and who also received continual training in the skills of data collection and analysis. Moreover, in the healthcare field, patient-centred care has been regarded as being crucial for the delivery of high quality care (Mead & Bower, 2000) and the patients’ perspective has played an important role (Clancy & Fraser, 2015). Interviewing is a useful way for learning about the world of others (Qu & Dumay, 2011), and for exploring patients’ perspectives. Furthermore, using qualitative research methodology can emphasize the socially constructed nature of reality and seek answers to questions about how social experiences are created and given meaning (Denzin & Lincoln, 2011). Using a number of different qualitative methods and interview techniques is thus also one of the advantages of the thesis in exploring at a deeper level the healthcare problems of GDM in China from the perspectives of women with GDM. It is also a good learning and training process for a PhD student to gain greater knowledge about qualitative research approaches.

There are other potential limitations in this thesis. Firstly, some nuances could be lost in the translation process of the interview guide and the interview texts because all the interviews in the studies were done in Chinese and
transcribed verbatim, and then translated into English for analysis. These nuances could possibly affect the results of the study. An attempt to reduce these translation problems was made by using a native Chinese with bilingual skills who was trained in the translation skills based on the methodological considerations of Squires (2008). Secondly, the findings of the thesis can only represent the views of the interviewed women due to the small sample size used in the four studies. However, the findings might be transferred to women in a similar situation (Polit & Beck, 2012). The participants consisted of women living in both urban and rural areas. The thesis thus allowed the voice of the disadvantaged populations in maternal health in China to be heard (Yuan, Qian, & Thomsen, 2013); the women living in rural areas were most likely in the shadow of Chinese mainstream society. Thirdly, the findings could be influenced by how the participants expressed their views in the interviews because their disease could make them have negative feelings towards themselves and their surroundings. In order to target the aim of the thesis, fully cover the research questions of the thesis, and obtain rich data, the role of the interview guides in the four studies was important. The interview guides were produced by referring to the relevant literature and discussing with co-authors (Seale, Gobo, Gubrium, & Silverman, 2007), as well as being tested in pilot interviews (Turner III, 2010).

Studies I and II

According to Mayring (2000, p. 2), qualitative content analysis is ‘an approach of empirical, methodological controlled analysis of texts within their context of communication, following content analytical rules and step by step models, without rash quantification’. It was necessary to try to control pre-understanding in order to achieve trustworthiness during the analysis process by strictly following the aim, research questions and steps of qualitative content analysis according to Mayring (2000), and seeking agreement between the authors on formulating the categories. In the second step of data analysis, i.e. deductive category application, the use of the lay theories of illness causation (Helman, 2007) and the model for care-seeking behavior (Kleinman, 1980) helped me to focus on the research questions and to determine the categories during the process of deductive category application. For a novice on qualitative methodology, it is a good beginning to use theory models to derive aspects of analysis. However, it might increase the risk for bias (Hsieh & Shannon, 2005). Being immersed in the whole text and discussing among co-authors can help to reduce this potential bias (Hsieh & Shannon, 2005).

Purposeful sampling (Patton, 2002) was chosen for use in the two studies for identification and selection of information-rich cases. A study about GDM showed that a low educational level was identified as the greatest risk of misunderstanding GDM, and a higher educational level was the only factor linked to increased comprehension (Carolan, Steele, & Margetts, 2010). The
purposeful sampling procedure was thus designed to seek women from high, medium and low education backgrounds in order to obtain rich data.

Study III

One of the strengths of the study is the sample size of 44 cases which was larger than in many qualitative studies where the common size is about 20 cases (Cleary, Horsfall, & Hayter, 2014). It increased the trustworthiness of Study III. The study used qualitative content analysis according to Graneheim and Lundman (2004) which focuses on the subject and context, and emphasizes differences between and similarities within codes and categories. It is thus a suitable method for exploring women’s perspectives about quality of care and the reasons behind these perspectives. Moreover, the method deals with manifest and latent content in a text, i.e. what the text says and what the text is talking about (Graneheim & Lundman, 2004). It needs the researcher to deal with the content aspect which describes the visible, obvious components, and the relationship aspect which involves an interpretation of the underlying meaning of the text. By using the method, the research questions of Study III can be explored more deeply. Moreover, it also constituted good learning and training in qualitative methodology for a novice by having the manifest content analysis as a suitable starting point and then advancing to the underlying meaning interpretation. Nevertheless, a researcher’s interpretation may be influenced by his or her background, and it is impossible and undesirable for the researcher not to add his or her particular perspective (Graneheim & Lundman, 2004). There was thus a risk in terms of the trustworthiness of the study. In order to avoid the addition of meaning, which was not from the interview text, discussions were conducted between authors with different backgrounds, and efforts were made to be close to the text and let the text talk during the analysis process of Study III.

Study IV

Using phenomenological hermeneutics (Lindseth & Norberg, 2004) can generate a deeper understanding of the essence of people’s lived experiences than that qualitative content analysis can attain. The essential meaning is what is invariable in all the variations of the phenomenon and is not easily expressed by people (Lindseth & Norberg, 2004). It is thus important to explore the lived experiences of Chinese women with GDM in order to make people be able to understand and improve the health care practice. The findings of the thesis also become more understandable and acceptable for the stakeholders by this method.

Ricoeur emphasizes the preunderstanding of life which is expressed in the shape of stories (Ricoeur, 1988). We cannot free ourselves from our preunderstanding (Heidegger, Macquarrie, & Robinson, 2008). Through critical reflection, discussion between authors and using relevant literature, we revised, broadened and deepened our awareness, and thus formed the essential
meaning of the lives of the women with GDM. However, during the process of interviews and data analysis, it is important to refrain from any judgment about the phenomenon in order to keep ourselves as open as possible to the text and to the understandable meaning implicit in the text.

Discussion of findings

The overall aim of the thesis was to explore the perspectives of Chinese women with GDM focusing on their beliefs about health and illness and self-care behavior, the quality of care in China, and their lived experience. In the thesis, Orem’s Self-Care Deficit Theory of Nursing (Orem, 2001) was the theoretical foundation used to illustrate how the interaction between healthcare providers and women with GDM was built. During the interactive process, Eriksson’s Theory of Caritative Caring (Eriksson et al., 2006) was also used to help to understand how healthcare providers can reach the goal of high quality of care for women with GDM.

Three styles of beliefs about GDM among the Chinese women were explored in the present thesis: (1) GDM should be treated seriously; (2) GDM was not a severe illness; and (3) GDM was nothing to worry about. The women with the first belief strove to control the illness, and attained the stable normal value of blood glucose. The women with the second belief tried to control it based on the knowledge they had gained, but some of them felt helpless because the value of their blood glucose could not be kept within the normal range. The women with the third belief almost ignored GDM. Among women’s beliefs and self-care behavior, the influence of Chinese culture was demonstrated. They showed that they sought a balance between following professionals’ advice and avoiding practical difficulties. Health professionals were identified as the most important source of knowledge about GDM. The support from health professionals and husbands was perceived as important for the women in the thesis. The thesis highlighted the lack of knowledge about GDM, especially in the group of women living in rural areas. The lack of knowledge, the lower level of risk awareness, and the poor self-care behavior among the women with GDM were due to the lack of professional care resources for GDM and the high-quality personalized care for women with the illness. From the perspectives of the Chinese women with GDM, the core problem of lacking high-quality GDM care was an imbalance between over-stretched hospitals and low-efficiency under-utilized primary healthcare centers. Their lived experience showed that they were eager to be cared for. The thesis demonstrated the women’s call for caring care in China.

After the women in the studies were informed about being diagnosed with GDM, they experienced shock, doubt, surprised, strange feelings, denial, fear, and worry. Similar emotional reactions were also found in studies conducted in Australia (Carolan, Gill, & Steele, 2012) and in Canada (Neufeld, 2011),
which appeared together with negative relationships with diet control and other lifestyle treatments. This illustrated that women’s experiences of living with GDM could be overwhelming. Psychological issues have been identified as pivotal in helping and encouraging women with GDM to enhance their self-management and better control of GDM (Stankiewicz, McCauley, & Lin, 2014). The thesis suggested that psychological care was necessary for women with GDM to reduce the negative emotional reactions; and health providers and the women and their family members needed to have an understanding of the impact of the GDM diagnosis on the women’s psychological well-being and ongoing mental health.

The women in the thesis attributed illness and health to individual factors such as wrong dietary habits, which demonstrated a belief in their own responsibility for their illness and health (Helman, 2007). They feared GDM and its negative influence on their own and their babies’ health, which was similar to other studies. For example, North American indigenous women with GDM had significant fear and anxiety about the health and well-being of the unborn child and the use of insulin injections (Carson et al., 2015). It implied that it was possible for these women to take the responsibility for controlling their GDM. In fact, some women in the thesis believed that GDM should be treated seriously, and they strove to control their GDM and attained the stable normal value of blood glucose.

However, some of the women in the thesis believed that GDM was not a severe illness or GDM was nothing to worry about. One of the reasons for this was the women’s perceptions about GDM: they did not perceive that they had any symptoms; they and their babies were “normal” after being checked in hospital; and they had seen that other women with GDM and these women’s neonates did not have any problems generated by GDM. A study showed that a lower level of risk awareness about GDM was related to limited knowledge about the body and GDM (Hjelm et al., 2012). Another study showed that lower levels of health literacy and risk awareness of GDM might relate to a risk for poorer self-management of GDM (Carolan et al., 2010). The present studies showed that women’s poorer self-management of GDM was related to the lack of necessary knowledge about GDM. For example, one of their misunderstandings on diet control was that their worries about diet control could result in a nutrition deficiency. Actually, the women in the studies complained that they lacked sufficient health education about GDM. Moreover, the women in the present studies also attributed illness and health to the natural factors such as polluted food and environment. This showed that the educational contents for women with GDM living in China should focus on knowledge about the body and GDM and relate to their surroundings.

Another one of the reasons for the beliefs that GDM was not a severe illness or GDM was nothing to worry about was due to the influence of the ignoring attitude of health professionals and people around them. According to Kleinman (1980), people suffering from physical discomfort or emotional
stress seek help from professional, popular and folk sectors, and thus form their own beliefs and behavior. The behavior of seeking information from multiple sources among women with GDM was also found in a systematic review (Van Ryswyk, Middleton, Shute, Hague, & Crowther, 2015). Helman states that people construct their reality of health in aspects of biological and mental patterns, characteristics of their image of body, mind, and soul, ethnicity and family structures of community and society, and experiences of care (Helman, 2007). The present thesis showed that the women related their illness and health to the social factors, especially the well-being of their babies and families, and women’s beliefs were influenced by health professionals and people around. According to Orem’s Self-care Deficit Theory of Nursing (Orem, 2001), nursing systems are action systems formed by health providers through the practice of their nursing agency for persons with health-derived or health-associated limitations in self-care or dependent care. The nursing systems may be produced for individuals, for persons who constitute a dependent-care unit, and for families and other multi-person units. Therefore, in order to promote women’s health-related behavior, health education about GDM should involve both women with GDM and their family members; posters and social media should also be utilized for spreading knowledge about GDM in communities and society; and the ignoring attitude of some of the health providers ought to be changed.

In terms of self-care behavior, the self-care measures performed by the women in the present studies were controlling diet, exercising and self-monitoring of blood glucose, which was in accordance with China Guideline for T2DM (Chinese Diabetes Society, 2014). However, they did not completely adhere to the health professionals’ advice. They sought a balance between trying to lead in a healthier life style and avoiding practical difficulties. Their concerns were not only their best health interest which health professionals focus on, but also family, work and cultural issues. The long term complications of the disease that the health professionals focus on could be quite remote and abstract for them, whereas their reward for non-adherence in general is immediate, concrete, and often more present-oriented (Reach, 2008). Patients’ therapeutic choices could be caused by their mental states composed of knowledge, skills, beliefs, emotions, and more or less contradictory desires (Reach, 2013a). The findings of the studies in the thesis showed a similar result. An interpretive review study also showed that their self-care behavior was influenced by beliefs, cultural roles, adequate and appropriate information, and professional and social support (Devsam et al., 2013). The non-adherence behavior might actually be a consequence of biases due to the ways of thinking cognitively and emotionally, and more often in the unconscious, intuitive and effort-free “thinking fast” system than the conscious and with effort “thinking slow” system (Reach, 2013b). The biases may be reduced by patient education (Reach, 2013a) and continual regulation of the patient’s exercise and development of self-care agency (Orem, 2001).
The education and regulation are formed through the exercise of the deliberate and intentional actions of health professionals. The exercise produces the relationship between patients and health professionals. According to Shinebourne and Bush (Shinebourne & Bush, 1994), having medical care is based on mutual trust between the health professionals and the patient. Patients’ trust is most strongly associated with patients’ satisfaction with their health professionals, and is also most strongly associated with adherence (Safran et al., 1998). In order to gain patients’ trust, the technical competency of health professionals is self-evident, but also the interpersonal competency of health professionals is important to build good communication and relationships with patients (Thom, Mark, & Pawlson, 2004). The good communication and relationships between health professionals and patients constitute the context of caring care, i.e. caring communion (Eriksson, 1992). In Eriksson’s theory, caring communion is characterized by warmth, closeness, rest, honesty, respect, and tolerance (Eriksson, 1992). According to Eriksson’s Theory of Caritative Caring (Eriksson et al., 2006), practicing the interpersonal caring competency may be by tending, playing and learning to listen to patients, understanding them, providing complete and honest information, acting in their interests ahead of other considerations, and thus expressing the caring care.

In addition, it seemed that there were some differences on the beliefs about health and illness and self-care behavior between the group of women living in urban areas (Study I) and the group of women living in rural areas (Study II). The women in the both groups lacked sufficient knowledge about GDM, and the women living in rural areas appeared to be in a more serious situation due to a lack of knowledge, low level of risk awareness and poor self-care behavior. This was perhaps due to less dissemination of GDM knowledge in rural communities. A review study showed that rural doctors focused on clinical care and gave less attention to public health (Yip, Hsiao, Meng, Chen, & Sun, 2010). Another study showed that different health organizations influenced the beliefs and health-related behavior of women with GDM (Hjelm, Berntorp, Frid, Aberg, & Apelqvist, 2008). Perhaps the different results between the two groups were due to the different quality of GDM care at the hospitals where Studies I and II were respectively conducted. Moreover, the comparison between Study I and Study II may be less useful since small samples were used in both studies, which cannot generate statistically significant differences (Campbell, Machin, & Walters, 2007). However, one of the aims of the thesis was to explore the beliefs and self-care behavior of the women living in China. The results from Studies I and II can constitute a reasonable representation of this. The comparison can also be seen to generate a cue to the differences of beliefs and self-care behavior between the two groups. In the future, it could be good to use quantitative approaches to further highlight the differences between the two groups.
In terms of quality of care, the women in the thesis complained that they lacked professional care resources and high-quality personalized care for GDM, but they also realized that staff in well-utilized hospitals were overloaded with work. A study about the healthcare situation in China showed that most specialists in China worked in top-level hospitals located in urban areas; and these hospitals were utilized to a great extent because patients also made appointments for primary care issues, while the corresponding rate for the primary care centers was very low (Wang et al., 2013). According to the Institute of Medicine of the USA (Institute of Medicine (U.S.), 2012), primary care and public health play critical roles in handling both national and local health problems. The knowledge, skills and practice related to the prevention of GDM in primary care should be given greater attention worldwide in order to reduce the increasing social and economic burden (Barengo & Tuomilehto, 2012). The core problem on the quality of GDM care in China could thus be an imbalance between over-stretched hospitals and low-efficiency under-utilized primary healthcare centers. A reform of clinical practices, especially in primary health care, could be necessary for increasing the number of health professionals and material resources to a reasonable level.

Based on the lived experience of women with GDM in the present thesis, they appeared to be suffering due to their illness, treatment and the lack of caring care. They suggested increasing the number of staff and material resources for antenatal care, optimizing the clinical pathway of GDM based on the current healthcare resources, expanding healthcare education about pregnancy and GDM, improving professional GDM care, and providing a humanistic care approach. It seems that they were eager to receive professional care and be well taken care of. The feeling of being taken care of is produced by the resonance between patients and caregivers, and the acknowledgement of the individual with respect from a person-centered perspective (Zane Robinson & Denise Nagle, 2013). A study showed that good care from patients’ perspectives were patient-focused, individualized and involved care related to their needs; it was provided in a humanistic way by the health providers who showed their involvement, commitment and concern to patients (Attree, 2001). The lack of a humanistic care approach was an important contributor to the insufficiencies related to the quality of maternal healthcare in low income and middle-income countries (Reis, Deller, Carr, & Smith, 2012). Caring, according to Eriksson (Eriksson, 2002), as an ethos of love and compassion, implies alleviation of suffering in love, charity, faith, and hope, which serves life and health. The thesis has shown the women’s call for caring care. Strengthening caring care for GDM in China could be through carrying out and updating diabetes guidelines and routines with the content of a humanistic care approach. According to Martinsen’s philosophy of caring (Martinsen & Kjerland, 2006), caring requires education and training in a professional context. It is thus necessary that health providers and health policymakers to receive education and training about caring care in order to
produce the updated diabetes guidelines and routines with humanistic care content.

In the continually adjusting and adapting lived experience, some of Chinese women in the present studies, in order to alleviate the stress from GDM, sought help from philosophical doctrines such as “let nature take its course” and “living in the present”, and rituals such as burning incense and worshiping Buddha. They allowed nature to take its course after they had tried to control GDM, which resembles with the findings in another study about Chinese elderly with chronic illness (Zhang, Shan, & Jiang, 2014). They gained psychological comfort by trying to live in the present or praying for Buddha’s blessing. Some women in the studies may really have not worried about their illness by “letting nature take its course”, “living in the present” and rituals; another possibility is that they feel that they have no choice in the situation apart from natural acceptation. The philosophical doctrines could sometimes but not always reduce the effect of the disease. However, knowledge of cultural issues can enable health providers to communicate more effectively with patients, more accurately assess the cultural expression of pain and mental health problems, and provide culturally appropriate interventions to prevent or alleviate people’s discomfort (Andrews & Boyle, 2012). In order to provide better care, health providers ought to be aware of the cultural influences on Chinese women.

Conclusions and future research

The thesis showed the women’s call for caring care in China. Three styles of beliefs about GDM among the Chinese women were explored. Based on the three styles of beliefs, three self-care behavior models were revealed. The women sought a balance between following professionals’ advice and avoiding practical difficulties. Health professionals were found to be the most important source of knowledge about GDM, and the support from health professionals and husbands was perceived as important for the women in the present studies. Chinese culture was demonstrated among women’s beliefs and self-care behavior. The thesis highlighted the lack of knowledge, low level of risk awareness and poor self-care behavior among the women with GDM, as well as a lack of professional care resources for GDM and a lack of high-quality personalized care for women with GDM. From the perspectives of Chinese women with GDM, the core problem of lacking high-quality GDM care could be an imbalance between over-stretched hospitals and low-efficiency under-utilized primary healthcare centers. The lived experience of the women with GDM living in the south east of China was that they were eager to be cared for.

In order to improve quality of care in China, a reform of clinical practice is necessary in order to increase the number of health professionals and material
resources to a reasonable level, particularly in primary health care. It is also necessary to strengthen caring care in China, because there have been great demands for caring in the healthcare field for the Chinese people. Strengthening caring care about GDM could be done by carrying out and updating diabetes guidelines and routines with humanistic and psychological care content, and Chinese cultural considerations. The education content should focus on knowledge about the body and GDM, and relate to women’s life and living conditions. It is necessary that health providers and health policymakers receive education and training about caring care in order to produce the updated diabetes guidelines and routines. Whilst the ignoring attitude of some of health professionals ought to be changed; health education about GDM should involve both women with GDM and their family members; and posters and social media also should be utilized for spreading knowledge about GDM in communities and society.

The model of beliefs and self-care behavior of Chinese women with GDM and the problems of quality of GDM care in China have been identified in the present thesis. Patients’ suggestions regarding improvements to GDM care and patients’ eagerness for caring care were also explored by the studies in the thesis. It should be possible to develop a health-care management model and health education strategy to suit Chinese women with GDM, which should be able to help Chinese women to reform their self-care behavior, but also facilitate health providers to conduct the model and strategy. An empirical research project about GDM in China using quantitative methodology would be useful to conduct. The research project could use the ‘Self-care Model of Caritative Caring’ (Figure 2) as a theoretical framework for conducting a health education program for women with GDM and their families, GDM health providers, and communities.
REFERENCES


APPENDIX A: BACKGROUND INVESTIGATION QUESTIONNAIRE

Year of Birth:

Present occupation:

Present employment:

Total education years: _____ years

Educational level

☐ Primary school (6 years)
☐ Graduated Middle School (9 years)
☐ Graduated High School or technical school (12-13 years)
☐ Attended university, _____ years (≥ 15 years)
☐ Additional education: please specify ________________

Present working condition

☐ Employed
☐ Unemployed
☐ Student
☐ Sick-leave
☐ Disability pension
☐ Other, please specify ________________

Family circumstance

☐ Single
☐ Married
☐ Cohabiting
☐ Divorced
☐ Widowhood
☐ Other, please specify ________________
Number of pregnancy: _________________

When were you informed about your diagnosis of gestational diabetes? _________________

Did you have diabetes before you are pregnant?
☐ Yes. Which year did you get the diagnosis _________________
☐ No

Did your gestational diabetes reappear?
☐ Yes. Which year _________________
☐ No

Present treatment of gestational diabetes:
☐ Diet
☐ Oral pharmacologic treatment
☐ Insulin
☐ Combined treatment; please specify _________________

What health problem do you have related to your gestational diabetes?
☐ Yes. Please specify _________________
☐ No

What health problem do you have related to your pregnancy?
☐ Yes. Please specify _________________
☐ No

Current medication including nutrition supplements? Please specify
 _________________
APPENDIX B: BACKGROUND INVESTIGATION QUESTIONNAIRE (IN CHINESE)

背景数据

出生年份：

现在的职业：

现在受雇于：

总计受教育时间：____年

教育的形式
□小学（6年）
□9年义务教育（9年）
□高中或中专 (12-13年)
□大学，学制____（≥15年）
□其他，请指出 __________

现在的工作条件
□有工作
□失业
□学生
□病假
□提前退休养老金/残疾人养老金
□其他，请指出 __________
婚姻状况
□未婚
□已婚
□同居
□离婚
□寡居
□其他，请指出__________________

妊娠的次数是__________________

妊娠糖尿病出现在何年何月__________________

妊娠前，您被诊断为糖尿病了吗？
□是的。如果是，请回答是哪一年__________________
□没有

妊娠糖尿病重新出现了吗？
□是的。如果是，请回答是哪一年__________________
□没有

现在治疗糖尿病的方法是：
□饮食
□口服降糖药
□胰岛素
□其他治疗，是__________________

您有与糖尿病相关的不适吗？
□是的。如果是，请回答__________________
□没有

您有与妊娠相关的不适吗？请说明__________________

您有与妊娠糖尿病相关的不适吗？请说明__________________

请说明您的目前用药__________________