FACTORS INFLUENCING THE INCREASING TREND OF CESAREAN SECTIONS IN PUBLIC TERTIARY HOSPITAL IN MALE',MALDIVES

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THE MALDIVES NATIONAL UNIVERSITY

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FACTORS INFLUENCING THE INCREASING TREND OF CESAREAN SECTIONS IN PUBLIC TERTIARY HOSPITAL IGMH, IN MALE', MALDIVES

MADHEEHA AHMED

A Project submitted in partial fulfillment of the requirements for the degree of Bachelor in Primary Health Care

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ABSTRACT

Trends of caesarean sections (C-section) worldwide shows that the rate of C sections has increased globally, regionally and at national levels with an average global increase of 12.4% for the period between 1990 and 2014. Increasing number of Caesarean Section in Maldives is a growing concern that needs further investigations. on the objective of this study was to identify the individual factors, medical factors, non-medical factors that influence the increasing rate of C-sections and to determine the relationship between those factors and the mode of delivery in Maldives.. A descriptive cross-sectional research design and a quantitative method were used on a stratified random sample of women. Data was collected by using a researcher administered questionnaire, from 97 women who had normal delivery and 70 women who had a C-section. Both descriptive and inferential statistics were performed by using SPSS and "R" software. The individual factors that were most influential include awareness of the risk factors and indications of LSCS and knowledge of how an LSCS procedure take place which were found to be different between the two groups of women. Medical factors such as the number of pregnancies and the weight of the baby were influential factors. Non-medical factors such as society's influence on the mode of delivery and availability of health financing for delivery were similar between the two groups of women. This study also highlighted a statistically significant association between the mode of delivery and knowledge of the procedures of LSCS, knowledge of the indications for LSCS, health status of the mother, presence of a chronic disease in the mother and the number of pregnancies. This study has identified the need to provide knowledge and awareness to women on the different types of delivery method and provides evidence for policymakers to focus on ways to reduce the rate of C-sections to fit to the WHO recommended proportion of C-sections in a country.

ACKNOWLEDGEMENTS

This research was authorized by the Maldives National University, Faculty of health sciences. Since this is my first research dissertation, I faced many challenges, but there are people who made it much easier. I would like to thank all of them. First and foremost, I thank god almighty for giving me the courage to complete this research. Secondly I thank my research supervisor, Dr.Mariyam Suzana. Without her assistance and dedicated involvement at every step throughout the process, this research dissertation would have never been accomplished. I sincerely thank her for time and support throughout my research dissertation. Furthermore, special thanks is given to Ms. Mariyam Aroosh, my friend who spent her precious time to help me as a research assistant to collect data. Many thanks is given to the management of Indira Gandhi Memorial Hospital and the staff of Gynaecology department for their support and kind co-operation at the time of data collection. In addition I thank all the participants of this study, without their participation and cooperation it would have been impossible to complete this research dissertation.

DECLARATION

Name: Madheeha Ahmed

Student number: 002604

I hereby declare that this project is the result of my own work, except for quotations and summaries which have been duly acknowledged.

Signature: Date:

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LIST OF ABBREVISTIONS

C-Section: Caesarean Section

WHO - World Health Organization

IGMH: Indira Gandhi Memorial Hospital

ADK: Adk Hospital

HH: Hulhumale' Hospital.

APGAR: Appearance, Pulse, Grimace, Activity, Respiration

NICU: Neonatal Intensive Care Unit

SPSS: Statistical Program for Social Science

SVD: Spontaneous Vaginal Delivery

LSCS: Lower Segment Caesarean Section

1. CHAPTER ONE: INTRODUCTION:

This chapter will consist of the background of the study, the problem statement and justification of the study. The purpose of the study (general and specific objectives), research questions and significance of the study will also be presented. This section will also describe the delimitations of the study and finally provide the operational definitions of the terminologies used in the study.

Background of the study

Caesarean Section (C-Section) is one of the most common surgery done among obstetric women globally which has been increasing year by year due to technological advancements mostly in developed and developing countries. Trend analysis of C sections for the period 1990 to 2014 using 150 countries from all the continents showed that the rate of C sections has increased globally, regionally and nationally with an increase from 6.7% in 1990 to 19.1% in 2014 which is an increase of 12.4% in the global average CS rate (ref 1). The International Health Care Community considers the range of 10 to 15 % of total deliveries as an ideal rate for Caesarean Section (WHO, 2015). Up to 10% of the C-Section it increases maternal and child mortality rate and beyond the 10% of C-Sections there is no evidence that it decrease the rate of maternal and child mortality (WHO, 2015) . Even though there is no agreement on a "perfect" rate of C-Section delivery at the population level, WHO has suggested that values between 5% and 15 % of live births could be taken as an ideal C-section rate (WHO, World Health Organization, 2015). Some historical studies point that low

maternal mortality, poor obstetric result and some critical procedures for both mother and fetus can be achieved when the caesarean delivery rate is below 15% of live births (give ref). However, there is rising concern about unnecessary C-Sections. Unnecessary C-Section can increase the risk of maternal morbidity and mortality, neonatal death and neonatal admission to a Neonatal Intensive Care Unit (NICU), (WHO, 2015).

C-Section generally reduces risk in breech presentations and risk of intra-partum fetal death in cephalic presentations, however increases the risk of severe maternal and neonatal morbidity and mortality in cephalic presentations. The increase in rates of C-Section at an institutional level is neither linked with any clear overall benefit for the baby nor for the mother but is linked with increased morbidity for both. Therefore, it is important to provide women and healthcare providers with much needed information on the potential individual risk and benefits associated with C-Section (Shorten, 2007).

Trends of C section deliveries in the Maldives follow the global trend of increase. Health statistics from the Ministry of Health shows that the rate of C sections have increased in the Maldives from 26% of total deliveries in 2010 to 40% of total deliveries in 2012 (MOH, 2013). The same statistics also show that the rate of C sections have decreased among public hospitals. However, during the first six months of the year 2011, the percentage of C-Sections at the major private hospital in Maldives 'ADK hospital' stood at 35% of the total births. During the same period of the year 2012 the percentage of C-Section has increased to 44%. (Affal A, 2012). These evidences make Maldives a good setting to study the factors that influence the increase in C sections.

Problem statement and justification

Increasing number of C-Section deliveries is a global concern due to number of risks and complications associated with it. According to a nationwide survey done in France during the period of 1996 to 2006, the risk of postpartum death was 3.6 times higher after C-section than after vaginal delivery. C- Section delivery was associated with a significantly increased risk of maternal death from complications of anaesthesia, puerperal infection, and venous thromboembolism. (Deneux- Tharaux C, 2006).

Some of the other complications related to C-Section deliveries for mother include, infection, haemorrhage or increased blood loss, injury to organs, adhesions, extended recovery time, reactions to medications, risk of additional surgeries, maternal mortality and emotional reactions (El, 2015) . And also some of the complications for baby after C-Section include premature birth, breathing problems and low APGAR scores (El, 2015). The bar chart below shows the percentage of vaginal deliveries and C- sections taken in 2 main Hospitals (IGMH and ADK) of Male' during past 5 years. The statistics in tabular form is in Appendix 5. The figure (1.1), show the increasing trend of C-Section in Male'. So far there is no research done to identify the influencing factors of increasing C-section in the Maldives. There were no records in hospitals or institutes like number of patients who had complications from C-Section and the types of complications which occur more frequently due to C-Section. Also there were no records available in the hospital, under what circumstance the patients went for C-section. Hence, it is important to study the determinants that influence this drastic increase in C sections in the Maldives.

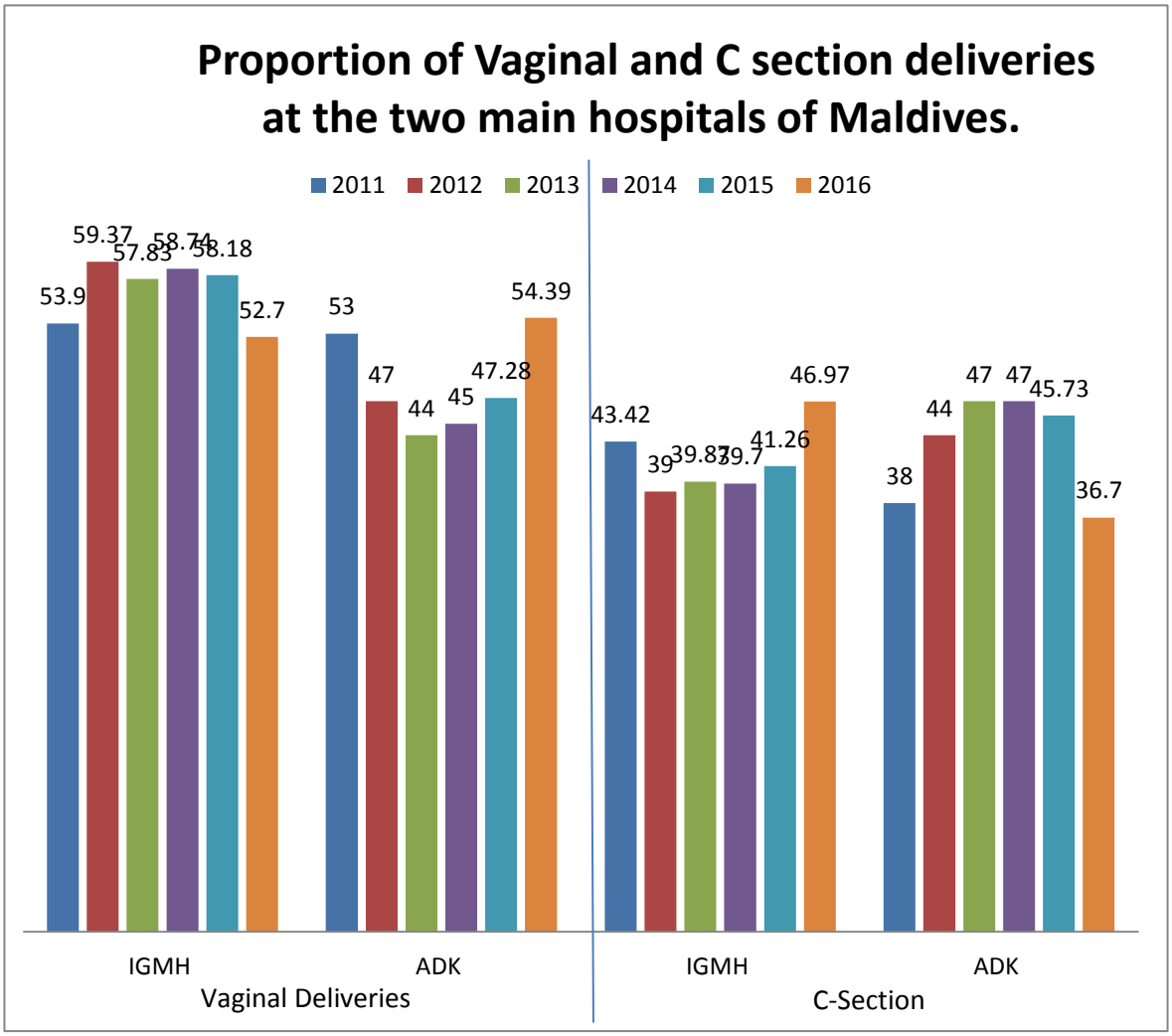


Figure 1.1: Proportion of Vaginal and C section deliveries at the two main hospitals of Maldives

Source: (IGMH, 2016), (ADK, 2016)

Purpose of the Research

The main purpose of this study is to identify the factors influencing the increasing trend of C-section in IGM hospital in Male 'the capital city of Maldives.

1.4. Objectives of study

1.4.1 General objective

- To identify the factors that influence the increasing rate of C-sections in IGM hospital in Male ’Maldives.

1.4.2 Specific objectives

- To identify the individual factors, such as awareness, beliefs and knowledge of women who received postnatal services from IGM hospital.
- To identify medical factors that influence a woman to have C-section.
- To identify non-medical factors such as societal influence, hospital factors, physician factors and health system facing factors that influences the increase of C-section.
- To determine the relationship between identified factors and the mode of delivery.

1.4.3 Research Questions

- What are the individual factors, such as awareness, beliefs and knowledge of women that influenced the mode of delivery?
- What are the medical factors that influence to have C-section?
- What are the non-medical factors such as societal influence, hospital factors, physician factors and health system facing factors that influences to increase C-section?
- Are there any relationship between the factors and the mode of last delivery?

1.5 Significance of the Research

The increasing trend of C-section in Male’ Maldives is clearly on the rise and there has been no previous study done on this subject in Maldives. This research will be beneficial for policy

makers to target interventions to increase awareness among mothers, practitioners and providers to set the rate of C sections at WHO accepted levels. Also it will help IGMH to target policies to reduce the increasing rate of C-sections. More over Health Protection Agency (HPA) can also use this as a baseline research to conduct future researches on this subject in the Maldives.

1.6 Delimitation/Scope of the research

More associated factors that influence the rate of C-section could be identified if the full sample were taken. Due to limited time the sample was reduced to 50% (50% of 333). In addition, the husbands' and family's opinion are also considered in the decision for the mode of delivery the wife has. However this research sample size only included the woman's viewpoint, hence their husband or their family's opinions were not obtained.

1.7 Operational Definition of Terms:

Adhesions: Possibility of forming scar tissue inside the pelvic region causing blockage and pain.

Spontaneous vaginal delivery (SVD): A spontaneous vaginal delivery is a vaginal delivery that happens on its own, without requiring doctors to use tools to help pull the baby out.

C-Section or LSCS: is a surgical procedure used to deliver a baby through incisions in the mother's abdomen and uterus.

Maternal mortality: The maternal mortality rate for a C-Section is higher than with a vaginal birth.

Cephalic Presentation: is a situation at childbirth where the fetus is in a longitudinal lie and the head enters the pelvis first.

Breech Presentation: in which the baby exits the pelvis with the buttocks or feet first as opposed to the normal head-first.

APGAR scores: a measure of the physical condition of a new-born infant. It is obtained by adding points (2, 1, or 0) for heart rate, respiratory effort, muscle tone, response to stimulation, and skin coloration; a score of ten represents the best possible condition.

2. CHAPTER (TWO) LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature from a global view point on the subject and is followed by literature related to specific variables and the theoretical framework which guides this study is explained in this chapter. In addition, literature of Maldives regarding the subject is also included.

2.2 Global perspective on the study topic.

According to the World health organisation, caesarean sections are effective in saving maternal and infant lives only when they are required for medically indicated reasons (WHO, 2015).

The Health and Social Care Information Centre of UK, informs that the most common onset C-Section deliveries complication was 'maternal care for known or suspected abnormality of pelvic organs, which was 53.2% of total C-Section deliveries (Hospital Episode Statistics Analysis,Health and Social Care Information Centre, 2014-2015). According to a research done in china, under a heading of ***"Factors influencing rising caesarean section rates in China",*** Caesarean section rates in Asia are generally thought to be lower, though some countries have also experienced an unparalleled rise. In China, close to two thirds of urban women now give birth by caesarean section, and above 25% of the woman living in rural areas give birth by C-Section.

Opinions differ on why the rate has risen so rapidly in China. The main reason why there is dramatic rise of C-Sections deliveries in China is because many Chinese women prefers C-

Section over vaginal delivery fearing the consequences of vaginal delivery and also because they think it is safer and free from pain and anxiety. There are number of people who believe that it is rapidly increasing because health-care providers encourage woman to go for C-Section due to the financial benefits they have by doing more C-Section deliveries. Total expenditure on caesarean section in China has risen dramatically and the procedure has become an important source of revenue for hospitals and health-care providers. The increased funding available through insurance schemes is also thought to have boosted demand, but it has weak correlation with increasing C-Section (Feng, Xu, Guo, & Ronsmans, 2011).

Women undergoing caesarean delivery have been found to be at an increased risk of severe maternal morbidity compared with women undergoing vaginal delivery. The risk of antibiotic treatment after delivery for women having caesarean was five times that of women having vaginal deliveries. In cephalic presentation C- Section increased for the baby, the risk for a stay of seven or more days in NICU and the risk of neonatal mortality up to hospital discharge, which continued higher even after omission of all C-Section deliveries for fetal distress. Such increased risk was not seen for breech presentation (J, et al., 2007). This study identified some complications such as blood transfusions, hysterectomy, and maternal admission to an intensive care unit, maternal stay in hospital for over seven days, postpartum infections and maternal deaths (J, et al., 2007).

"Which factors can explain such a negative effect with cephalic presentation? By reducing fetal death (even slightly), caesarean delivery might increase the pool of sick babies, thus transferring deaths from the fetal to the neonatal period" (J, et al., 2007).

Also C-Section might increases neonatal morbidity and mortality because of labour affects the physiological process for initiation of respiration. C-Section deliveries is known to be related with "respiratory distress syndrome" and as well as the lack of the mechanical compression of the lungs during labour needed to facilitate postnatal lung adaptation (J, et al.,

2007) .

2.3 Variables

There are many factors that influence the increasing rate of C-section. The factors (variables) focussed in this study were; Socio-demographic characteristics, individual factors, Medical factors and Non-medical factors including hospital factors physician factors, social factors and health system factor.

2.3.1. Socio-Demographic Factor

Age: A study conducted in UK, during the 2000- 2002 shows increasing maternal age lead to increase C-section. The same study shows older mothers are also more likely to need a range of interventions during labour - such as including epidurals and predicting the rate of emergency surgery- compared with women in their 20s ***(Essex, Green, Baston, & Pickett, 2013)***.

Marital Status: A study done in Brazil in year 2011- 2012 shows, there was no association between marital status and type of delivery ***(Gama, et al., 2014)***. Another study done in Cameroon also shows there was no difference between marital status and preference mode of delivery ***(Tebeu, et al., 2011).***

Educational status: According to research done by Chain (2008), when they have norm of having one child, rich and well educated women may prefer birth by C-Section, because they think it is safer and free from pain and anxiety (J, et al., Cesarean delivery on maternal request in southeast China, 2008) . A study conducted in Brazil; show that the C-section rate was higher among adolescents with an adequate level of education for their age (Gama, et al., 2014). Whereas women with higher levels of education were found to be more likely to choose vaginal delivery as their preferred mode of birth in Hong Kong (Loke, Davies, & Li,

Factors influencing the decision that women make on their mode of delivery: the Health Belief Model, 2015).

Employment Status: A study has been described that unemployed women were more likely to choose C-section than employed women in Tiwan *(KH, PJ, & CJ, 2008)*. Whereas a study conducted in Iran, unemployed women had higher score on attitudes towards normal delivery *(Aali & Motamedi, 2005)*.

2.3.2. Individual Factor

Awareness: A research shows, understanding of the benefits of vaginal delivery and the few related complications was among the most important positive perceptions about vaginal delivery. Also respondents believed that vaginal delivery led to minor complications and is not associated with complications of C-section such as back pain, pain/infection/irritation/or itching at the incision site, forgetfulness, death, or anesthesia-related complications (Zakerihamidi, Roudsari, & Khoei, 2015).

Knowledge: women's preference for SVD versus C-section is generally associated with their knowledge about maternal and neonatal complications of each mode(Maharlouei et al., 2013). A research conducted in North Trinidad shows, the majority of women attending antenatal and postnatal clinics did not have adequate knowledge about C-section to decide the mode of delivery on her choice (Mungrue, et al., 2010)

Beliefs and Attitudes: Some people believe that C-Section is more painless and safe than vaginal delivery, while others think opposite. Whereas, a research done in china shows, Chinese women think that C-Section is safer and painless (J, Y, S, W, & Z, Cesarean delivery on maternal request in southeast China, 2008).

Reasons: A study shows one of the reasons for mothers' tendency towards vaginal delivery

Was, they think SVD was important for the baby's lung development, improvement of mother-child emotional relationship and decrease medication usage (E, P, & G, 2009). Another research shows, the reason, women prefer to have C- section was SVD was painful and fearful experience (Zakerihamidi, Roudsari, & Khoei, 2015).

2.3.3 Medical Factors:

Health status of Mother: If the inner diameters of the birth canal does not allow, the baby's head to come out in this condition there is no other choice than C-Section. If mother is having conditions like uncontrolled hypertension, uncontrolled Diabetics, Preeclampsia and Placenta praevia and abruptio placenta, these are the conditions that fetus likely to get in risk at any time *(Becher & Stokke, 3013)*.

Health Status of baby: If fetal distress due to cord prolapse or some other reason, doctors may decide it is important to take emergency C-Section. If baby is on Breech presentation or Transverse Presentation, in this conditions also accelerate C-Sections. If the baby is "large baby" there is risk of even trying for vaginal delivery, shoulder dystocia, injuries of plexus brachialis and clavicle fracture may occur. And also a risk of vaginal tear, perianal damage and bleedings in the mother may occur *(Becher & Stokke, 3013)*.

2.3.4 Non-medical Factors:

Hospital factors: According to research, number of C-sections taken in privet hospitals were more than public hospital (Murphy & Fahey, 2013). Some research shows babies born by C-section increased the admission of NICU (S, et al., 2011). Furthermore some researches shows hospital stay is longer in C-section deliveries (Torloni, et al., 2013).

Physician factors: Some doctors those who seeking the profit are fuelling the increasing trend of C-section (Cara Birnbaum, 2009).

Societal factors: Some researches shows husband and women's mother-in-law plays a role in deciding the mode of delivery, especially husband were the most influenced person

(Upadhyay, Liabsuetrakul, Shrestha, & Pradhan, 2014).

Health system factors: Some research shows some association between health insurance coverage and the increasing trend of C- section (Davari, Maracy, Ghorashi, & Mokhtari, 2014)

2.4 Theoretical framework

The theory adopted for the conceptual frame work of this research was Health Belief Model to deliver a sound theoretical basis.

In the present study, the Health Belief Model (HBM) was adopted as a conceptual framework, to provide a wide-ranging theoretical basis for understanding the factors that influence women's mode of delivery. The HBM can determine the relationship between health-related beliefs/factors and maternal practices, which can help in anticipating the possibility of a woman choosing a particular mode of delivery. Utilizing this model, method of birth and maternal decision and its deciding variables can be investigated inside the five spaces of the HBM: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and cues to action (NK & MH., 1984).

2.4.1 Perceived susceptibility: The more that a person trusts, he/she is at greater risk, the more probable that individual is to receive a specific wellbeing related conduct to minimize such hazard (NK & MH., 1984). Likewise if women had a negative experience in a previous delivery could affect a woman's preference for a particular mode of delivery in upcoming pregnancy, due to the belief that the negative experience could occur again (Loke, Davies, & Li, Factors influencing the decision that women make on their mode of delivery: the Health Belief Model, 2015) .

2.4.2 Perceived severity: is defined as one's belief in the strength of the medical state and its unwanted outcomes (NK & MH., 1984). If it is believed that there are very serious or

unbearable complications associated with a specific mode of birth, women are more likely to express a preference for a different mode of delivery, to reduce their risk (Loke, Davies, & Li, Factors influencing the decision that women make on their mode of delivery: the Health Belief Model, 2015)

2.4.3 Perceived benefits: are defined as one's belief that results can be positively affected by engaging in specific health behaviour (NK & MH., 1984). The benefits for mother and fetal health and a sense or anticipating satisfaction of sociocultural beliefs have been recognized as important factors in maternal decision making. For example, in comparison of C-section and normal delivery, a fear of labor and repetitive vaginal examinations were underlying reasons why women showed a preference for C-section (Loke, Davies, & Li, Factors influencing the decision that women make on their mode of delivery: the Health Belief Model, 2015).

2.4.4 Perceived barriers: refers to a person's perception of the problems stopping them from following a specific health-related behaviour (NK & MH., 1984) . The desire to choose normal delivery is delayed by existing medical contraindications. There are some medical contraindications of normal delivery for mothers, including pelvic disproportion (Loke, Davies, & Li, Factors influencing the decision that women make on their mode of delivery: the Health Belief Model, 2015).

2.4.5 Cues to action: refer to the factors that helps individuals to make health-related decisions (NK & MH., 1984). Guidance from relatives, friends, health care professionals, as well as an awareness of the rights of women are essential factors that helps women to make decision on delivery mode (Loke, Davies, & Li, Factors influencing the decision that women make on their mode of delivery: the Health Belief Model, 2015). The theoretical framework for Health belief model can be summarizes according to the figure 2.0 below.

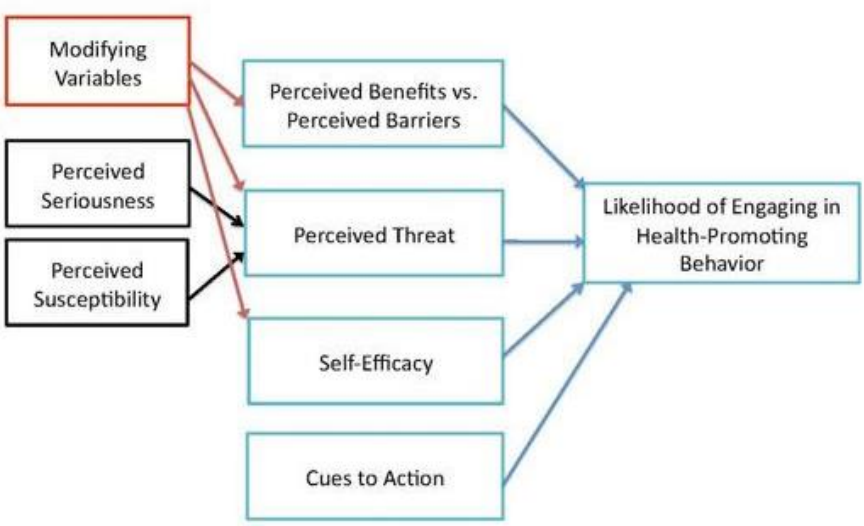


Figure 0.1: Theoretical framework

2.5 Existing Literature on Maldives

Health statistics from the Ministry of Health shows that the rate of C sections have increased in the Maldives from 26% of total deliveries in 2010 to 40% of total deliveries in 2012 (Health, THE MALDIVES HEALTH STATISTICS 2013, 2013). According to the statistics publicized from ADK hospital in the year 2012, the first half of the year, a total of 2119 births, 855 (40%) occurred at ADK hospital and 1264 occurred at IGM Hospital. The total number of C-Section taken in percentage, in both the hospital were 43% of total births and the total number of normal deliveries in percentage in both the hospitals stand at 52% of total births for referred period. As it is increasing globally day by day, the statistics in the Maldives also shows the same trend. During the first six months of the year 2011, the C-Sections percentage in ADK hospital stood at 35% of the total births. During the same period of the year 2012 the percentage of C-Section has increased to 44%. In comparison of C-Section taken in both the hospitals there is no much difference as IGMH has 43% and ADK 44% C-Section deliveries. The rate of normal deliveries at ADK is 46% while the figure for IGMH if 55% (Affal, 2012), 2012). Below diagram shows the mode of deliveries taken in

IGMH and ADK hospital in numbers during the first six months of 2012. It also shows that nearly half of the deliveries are C-Sections.

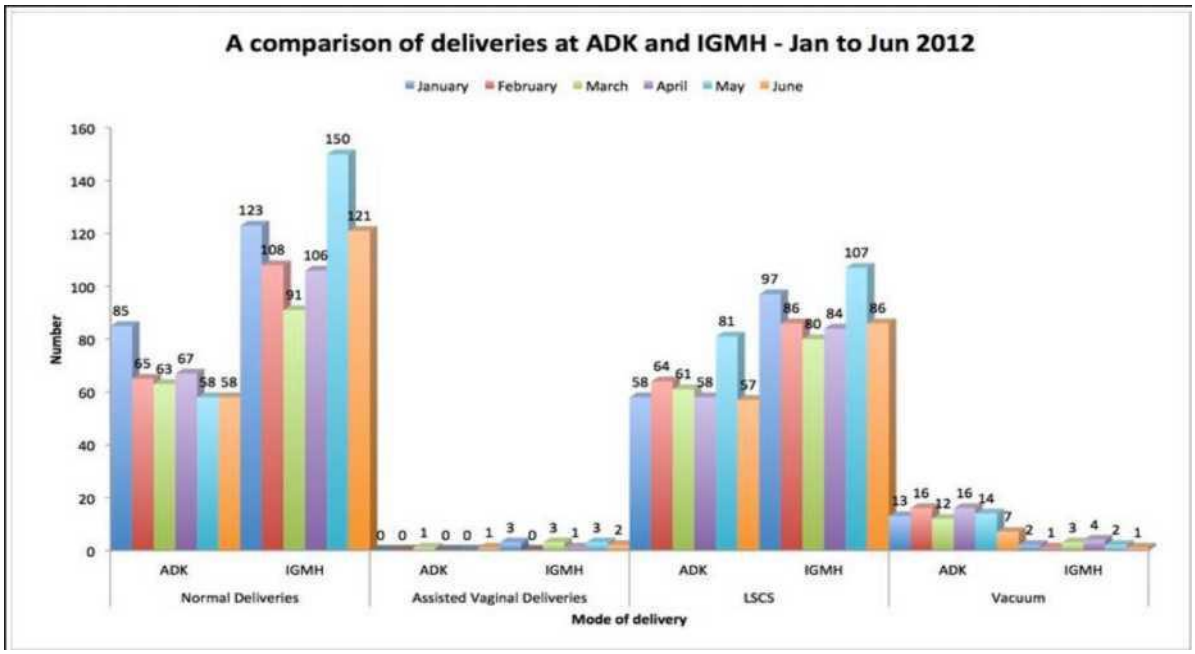
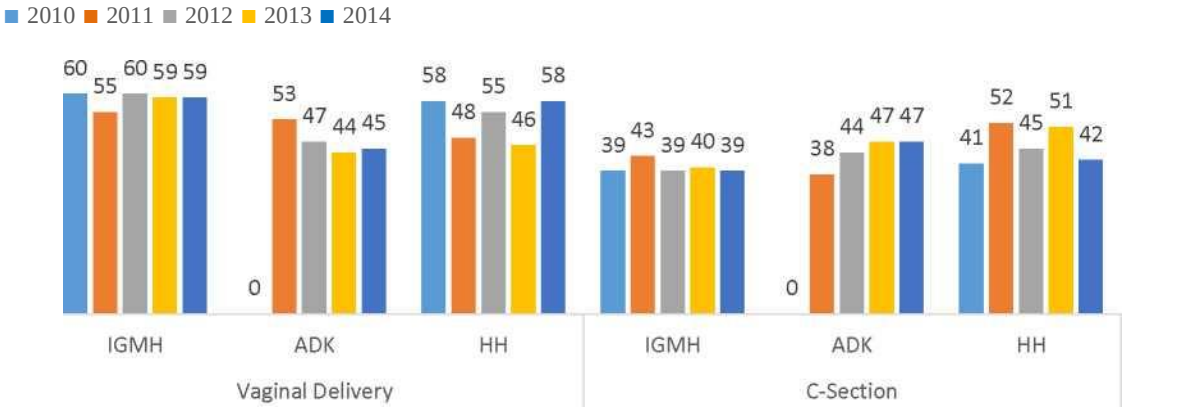


Figure 0.2: Comparision of delivveries at ADK and IGMH - Jan to Jun 2012

(Affal, 2012)

The delivery statistics from three main hospitals, IGMH, ADK and Hulhumale Hospital (HH) of past five years also show the rapid increasing trend of C-section as shown in bar chart below.

Mode of deliveries in 3 main hospitals of Male' (%)



Source: (IGMH, 2015), (ADK, 2015) and (HH, 2015)

Figure 0.3: Mode of deliveries in 3 main hospitals of Male' (%)

3. CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter describes the following subsections; design of this research, study area, target population, sampling technique, sample size, research instrument, validity and reliability, data collection techniques, data analysis, ethical consideration and finally the conceptual framework.

3.2 Research Design

A descriptive cross-sectional study was used in this research since this study aimed to identify the factors influencing increasing rate of C-Sections in the Maldives. Moreover, this study design also helped to investigate the presence of associations between explanatory variables and the outcome of interest. Cross sectional study designs are relatively easy to conduct within a short period of time and is less expensive compared to other study designs (Levin, 2006). In addition a quantitative data collection method was used in this research.

3.3 Study Area

The study area chosen for this research is Indira Gandhi Memorial Hospital (IGMH). IGMH was chosen for this research, since it is the government one and only tertiary hospital situated in Male' the capital city of Maldives. IGM Hospital is also the main referral center in the Maldives which therefore makes it a place that would give a representative sample of Maldivian women. According to health statistics, IGMH had the most number of deliveries in the country compared to any other health facility in the Maldives (Health, Maldives Health Profile, 2016) .

3.4 Target Population

The target population was all the women who delivered and who visited the Postnatal Clinic of IGM hospital. According to hospital statistics, there are 2493 women who attend the Reproductive health clinic of IGMH on a daily/weekly/monthly basis. Target population

cover patients from all the atolls of Maldives. Among them a sample of women who had SVD and LSCS as the last mode of delivery was selected. Other types of deliveries were excluded like vacuum and forceps delivery.

3.5 Sampling Techniques

A Stratified random sampling techniques was used in this study. A Stratified random sampling is a strategy for inspecting that includes the division of a population into smaller gatherings known as strata ("Stratified Random Sampling," 2007). In stratified random sampling, the strata are framed in view of individuals' shared characteristics or attributes, such as having SVD or LSCS as the last mode of delivery in this research. A random sample from every stratum is taken which corresponds to the size of the stratum in the target population.

In this study, the total target population was divided into two strata; women who had SVD and women who had LSCS. Total target population of this study was total of SVD and LSCS in the year 2015, and

A random sampling technique was used in selecting the portion of women from each subset. This was calculated according to the percentage of SVD and LSCS in the target population explained in detail in the next section.

3.6 Sample Size

The total sample size for this study was calculated using an online sample size calculator which was available at www.raosoft.com (2011). The total population of women who had SVD and LSCS in the year 2015 was 2492 (IGMH/LABOUR ROOM, 2016). The confidence level was set at 95%, with an error margin of 5%. With an expected response rate of 50%, the total sample size was 333 women. According to hospital records, the proportion of SVDs in the year 2015 was 58.51% (1458) and 41.92% (1034) were LSCS

(IGMH/LABOUR ROOM, 2016). Based on these proportions, the sample size for each strata was calculated. Due to time constraints, 50% of the total sample size was collected. Hence, after excluding the decimal points, total women for SVD strata was 58.51% of 333 which is equal to 194 and LSCS strata was 41.92% of 333 equaling to 139. With 50% of sample size being approached for data collection, the sample sizes for each strata was 97 women among SVDs and for LSCS, it was 70 women.

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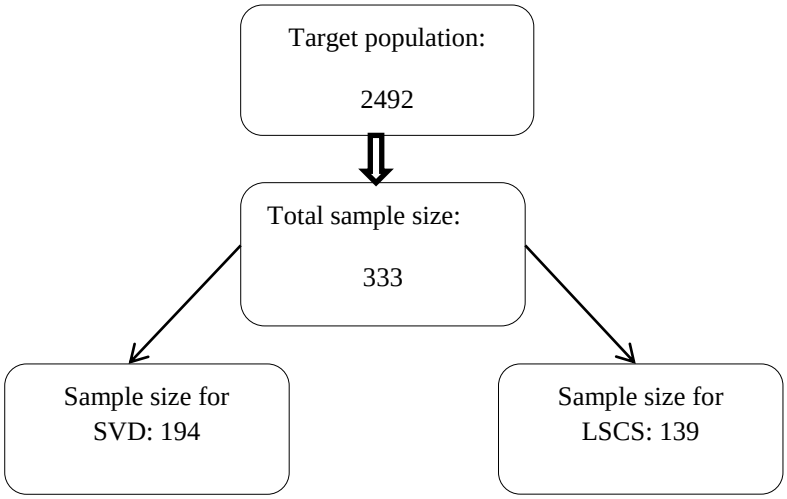

Figure 0.1: Sample frameworks.

3.7 Research Instrument

The research instrument used in this research was a researcher-administered structured questionnaire. The questionnaire was designed in a manner that the researcher can accomplish the goals of the research. The questionnaire was prepared in English (Appendix 3) and was translated to Dhivehi (Appendix 4). Along with the questionnaire participants were asked to fill an informed consent form. The questionnaire contained five sections (section 1, 2, 3, 4, and 5) and it consists of dichotomous, Likert, open-ended, close ended and multiple choice question for collecting the data. It took less than 15 minutes to answer the questionnaire.

Section one consisted of eight questions which collected information about the socio-demographic features of the respondents such as age, temporary address atoll, marital status, educational level, employment status and income.

Section two of the questionnaire consists of ten questions. In this section questions were formulated to assess the participant awareness, knowledge and beliefs towards C-section.
Section three consisted of eight questions. The questions in this section were formulated to identify the health status of the women and their babies. Section four consisted of ten questions. This question is especially for women who had C-section. Almost all the questions were based on to collect information about their last C-section.
The last section of the questionnaire (section 5) contained only two questions and is based on health insurance coverage of respondents.

3.8 Pre-testing

After developing the questionnaire, it was pretested among five women who had SVD and 5 women who had LSCS. Five individuals were selected in each stratum randomly and questioned to see whether they understood the questionnaire or not. After that, the questionnaire was amended according to their suggestions.

3.9 Validity and reliability

Before the data collection, the questionnaire was pre-tested among target population. Amendments were made to the questionnaire based on the pre-testing. After amending the questionnaire with suggestions from pre testing, the questionnaire was verified by the supervisor of this study. Also to increase the validity and reliability of the research, questionnaire strictly focuses on achieving the objectives of the research. At the time of field work, research assistants were there to support filling the questionnaire to minimize errors

and gaps that occur from collection of data by one person. Training was given to research assistants about filling the questionnaire and at the end of data collection each day, discussions were held to verify any unexpected responses. As the research was conducted at the main referral centre in the Maldives, the findings from his research can be applicable to hospitals in similar settings like the Maldives

3.10 Data collection techniques

Data collection was carried out by the researcher and the assistant, using a researcher-administered questionnaire. A consent form (Appendix 1, 2) which contains a brief introduction about the researcher were given to the respondents along with the questionnaire. Respondents were given chance to ask questions, if they have any queries about the research. The questionnaire was filled for those women who visited to postnatal clinic of IGMH. This was conducted at IGMH five days a week except for Wednesdays and Fridays, as these two days the postnatal clinic is closed. Researcher and research assistant visited the clinic opening time every day for (15 days) days to collect data. In addition, women who were admitted for postnatal care were also asked to fill the questionnaire. The whole process of data collection technique was organized and directly observed by the researcher. Data collection was carried out from 6th October, 2016 to 25th October, 2016.

3.10 Data analysis:

After completing the data collection, data were entered into the Statistical Package for Social Sciences (SPSS) software, version 20.0 and also R software. Descriptive statistics such as frequency and percentage were used to describe categorical data and mean, medium, minimum, maximum and standard deviation was used to describe continuous data. Inferential statistics such as relative frequencies and the Pearson's chi square test were used to identify

the association between dependent variable and independent variables by using "R" software. The evaluated results were presented in tabular forms and explained in chapter 4.

3.12 Ethical considerations

All the respondents were given information about the research and use of the research. As mentioned in the data collection techniques, the participants were provided with informed consent and participants were assured that participation in this research was completely voluntary. Moreover, participants were allowed to withdraw their names during the research at any point in time and beyond. The respondent's decision to give information was purely voluntarily. The anonymity and confidentiality of the data collected and participant's personal information was maintained throughout the research and beyond by not using any individual information in the analysis such as name or address of participant. Information collected was used only for research purpose and only authorized persons had access to the data collected. There is nothing included in this research that the respondents have to be responsible for. In this manner, during or after the research there will be no violation of the participant's ethical rights.

3.13 Conceptual framework and measurement of variables.

Figure 2 shows the conceptual framework used in this study, variables of which were derived from the theoretical framework explained in the literature review. The main outcome variable is the last mode of delivery of each respondent. Main components that consist the independent variables were the socio demographic characteristics, Individual factors, medical factors and non-medical factors that may influence the mode of delivery type. Each non-medical factor was categorized under hospital factors, physician factors, social factors and health system factors.

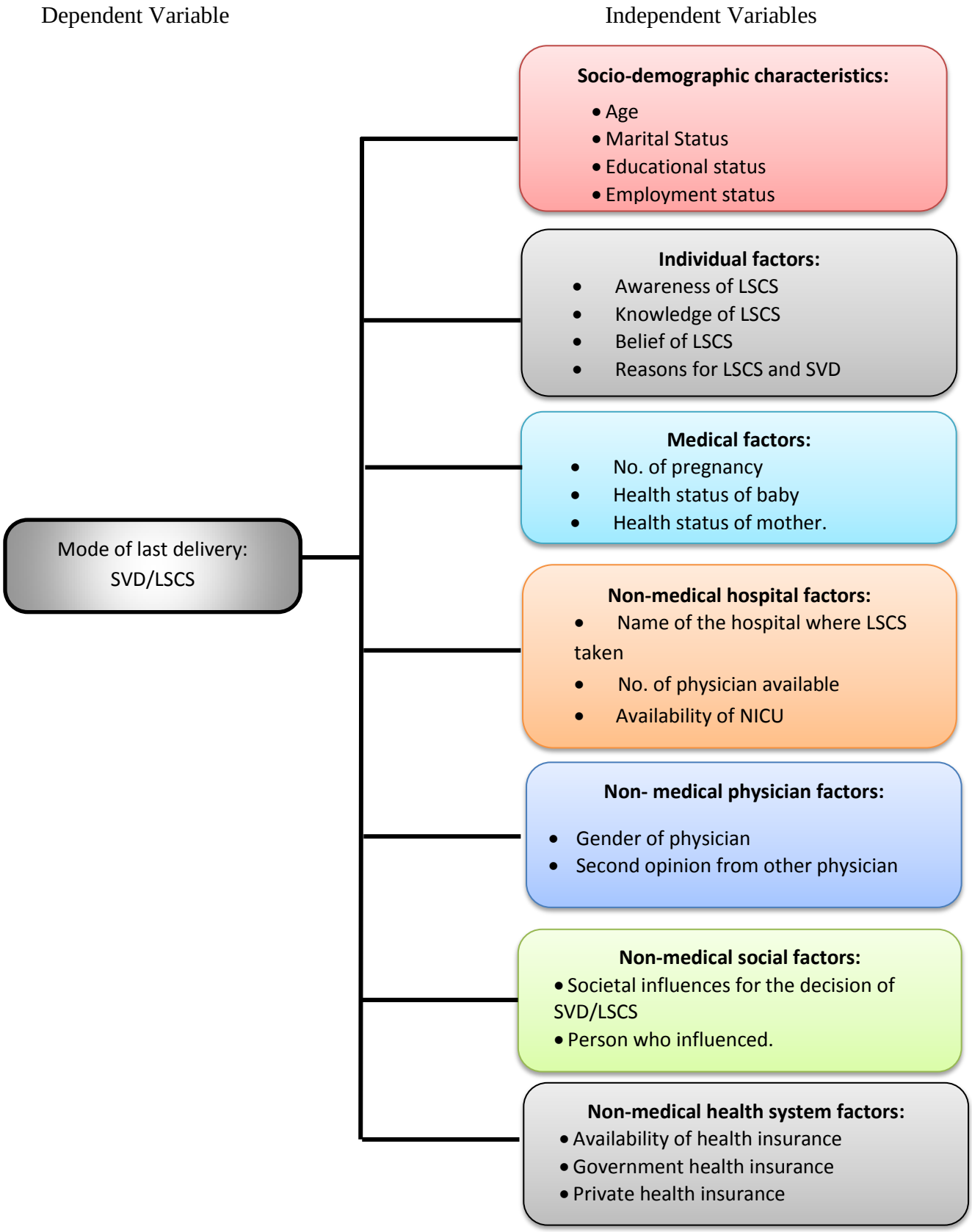

Figure 0.2 Conceptual frameworks

4. CHAPTER FOUR: DATA ANALYSIS AND RESULT

This chapter shows the data analysis and the results of this study. Both descriptive and inferential statistics were used in the analysis. Descriptive statistics include frequency and percentage for categorical variables, mean, median, mode, minimum and maximum for continuous variables. The inferential statistics performed in this research include relative frequencies and the Pearson's chi square test. Two by two tables were used to present conditional distribution of values to identify whether the distributions of one variable were the same across all the levels of the other variable. If the distributions were similar across the different levels of the explanatory variable, then it was considered to be statistically independent or no relationship between the two variables. But if the conditional distributions of one variable are different across all levels of the other variable, then it was considered to be statistically dependent, which means one variable depends on the other. The strength of this relationship was tested using Pearson's chi squared test, whereby the p value was set at 0.05.

4.1 Descriptive statistics

4.1.1 Socio-demographic characteristics: The socio-demographic characters included in this research were; age, marital status, educational level and employment status of respondents. The socio-demographic characteristics of the participants are presented below by the last mode of delivery the woman had.

Table 0.1: Socio-Demographic factors of Participants.

	Normal delivery(SVD)		C-section(LSCS)		
	Frequency (N=91)	(%)	Frequency (N=65)	(%)	P-value
Age (in years)					
Youth (20 - 29)	58	63.74	33	50.77	*< 0.001
Adult (30 - 59)	33	36.26	32	49.23	

Table 4.1 continued.

Mean age = 28.71, Median =29, Minimum = 20, Maximum = 41,
Standard Deviation= 4.556

	Frequency (N=96)	(%)	Frequency (N=66)	(%)	P-value
Marital Status:					
Married	95	99.0	65	98.48	*<0.802
Divorced	1	1.0	1	1.52	

	Frequency (N=97)	(%)	Frequency (N=70)	(%)	P- value
Education level:					
Below grade 7	5	5.15	9	12.86	
Below grade 10	23	23.71	22	31.43	
O' level	42	43.30	25	35.71	*<0.028
Higher secondary	14	14.43	10	14.29	
Bachelor degree and above	13	13.40	4	5.71	

	Frequency (N=97)	(%)	Frequency (N=70)	(%)	P-value
Employment Status					
Employed	36	37.11	22	31.43	*<0.317
Unemployed	61	62.89	48	68.57	

Table 4.1 shows the distribution of age, marital status, educational level and employment status of the women. Majority of the respondents were young (20-29) in both strata (63.74 %(58) women who had SVD, and 50.77 %(33) women who had LSCS). In adult age group (30-59), 36.26% (33) had SVD and 49.23 %(32) had LSCS. The mean, median, minimum and maximum age were calculated for both strata together. The mean age was 28 years, median was 29, youngest woman was 20 and the oldest was 41 years. There was a significant difference in their age between the women who underwent SVD and LSCS (p value <0.001).

Almost all the respondents were married except two of them. Percentage of married women in the of SVD group were 99% and 98.48%for LSCS group.

Majority of the respondents have completed their education up to 'O'Level (43.30 %(42) women who had SVD and 35.71 %(25) women who had LSCS). The number of Bachelor degree holders were higher (13.40%) among the women who underwent SVD compared to 5.71% among the LSCS group and differences in educational level across the two groups of women were significant (p value=0.03).

Most of the participants were unemployed in both the strata. Unemployment rate among women who had SVD was 62.89% (61), and 68.57% (48) among women who had LSCS. Employed women who had SVD were 37.11% (36) and had LSCS were 31.43% (22).

Table 0.2: Reasons for the mode of delivery (individual factors)

	Normal delivery (SVD)		C-section (LSCS)	
	Frequency (N=96)	%	Frequency (N=70)	%
Reasons for undergoing a normal delivery				
It is a natural process and unnecessary for caesarean section	81	88.04		
Want to experience the process of birth	19	20.65		
The baby born by natural process is much smarter	7	7.61		
The baby born by natural process is healthier	8	8.70		
The mother will suffer fewer risks	26	28.26		
The natural birth is cheap	2	2.17		
The mother will recover much fast	30	32.61		
No scar on abdomen	10	10.87		
Beneficial for breastfeeding	21	22.83		
			Frequency (N=54)	(%)
Reasons for undergoing a C-Section				
afraid of the pain from the natural birth process			3	5.56
Lack confidence and be worry about the natural birth process			2	3.70
Can choose the birth date			5	9.26
The baby will suffer fewer risks			34	62.96
			18	33.33

Table 4.2 continued.

The mother will suffer less risks		
Have been experienced caesarean birth	22	40.74
Abnormality was found during the prenatal examination	2	3.70
	Frequency (N=35)	%
Reasons for the first C-Section		
Size of the baby	12	34.29
Baby was in breech presentation	11	31.43
Risk to mother	7	20.00
Umbilical code around the neck	6	17.14
Cephalo-Pelvic disproportion	5	14.29

*The results are from multiple answers; hence it would not add up to 100%

The table 4.2 shows frequency and the percentages of reasons for the chosen mode of delivery among participants. The three most noted reasons to go for an SVD were that "It is a natural process and unnecessary for caesarean section" (88.04% (81)), "The mother will suffer fewer risks" (28.26% (26)) and that "The mother will recover much faster" (32.61% (30)).

The three most noted reasons to go for LSCS were "The baby will suffer fewer risks" (62.96 % (34)), "Have undergone caesarean birth before" (40.74% (22)) and "The mother will suffer fewer risks" (33.33 % (18)).

The three reasons with the highest frequencies for having a previous LSCS were "Size of the baby" (34.29 % (12)), "Baby was in breech presentation" (31.43% (11)) and "Risk to mother"(20 % (7)).

Table 0.3: Individual factors that influence the delivery type: Awareness, knowledge and beliefs of the woman

	Normal delivery		C-section	
1. Awareness among women:	Frequency (N=97)	(%)	Frequency (N=70)	(%)
1.1 Awareness on the indications of LSCS				
Yes	64	65.98	63	90.00
Continued	33	34.02	7	10.00

Table 4.3 continued
No

	Frequency (N=95)	(%)	Frequency (N=69)	(%)
1.2 Awareness on risk factors of LSCS				
Yes	48	50.53	39	56.52
No	31	32.63	24	34.78
Don't know	16	16.84	6	8.70
2. Knowledge of LSCS among women:	Frequency (N=62)	(%)	Frequency (N=60)	(%)
2.1 knowledge of the indications of LSCS:				
Breach presentation	62	100.00	56	93.33
Mother is having fever	6	9.68	6	10.00
Cephalo pelvic disproportion	58	93.55	56	93.33
Cord around the neck (baby)	57	91.94	54	90.00
Mother is a thalassemia carrier	2	3.23	1	1.67

	Frequency (N=93)	(%)	Frequency (N=69)	(%)
2.2 Knowledge of the need for blood transfusion during/after a LSCS:				
Yes	78	83.87	62	89.86
No	15	16.13	6	8.70
Don't know	0	0.00	1	1.45

	Frequency (N=95)	(%)	Frequency (N=69)	(%)
2.3 Knowledge of the procedure of LSCS:				
Yes	20	21.05	52	75.36
No	75	78.95	17	24.64

	Frequency (N=62)	(%)	Frequency (N=50)	(%)
2.4 Knowledge of complications of C-Section:				
Complications to the baby due to the infections occur during the C-section	30	48.39	22	44.00
Hypertension and obesity	26	41.94	16	32.00
Injuries to internal organs due to C-Section	34	54.84	34	68.00
Having Asthma after C-section	2	3.23	5	10.00
Postpartum death of baby	2	3.23	3	6.00
Hysterectomy due to excessive bleeding	28	45.16	33	66.00

Table 4.3 continued

3. Beliefs and attitude towards delivery	Frequency (N=97)	(%)	Frequency (N=69)	(%)
3.1 Belief that SVD is safer than LSCS:				
Yes	86	88.66	47	68.12
No	10	10.31	22	31.88
Don't know	1	1.03	0	0.00

	Frequency (N=97)	(%)	Frequency (N=69)	(%)
3.2 Belief that SVD is painless than LSCS:				
Strongly agree	32	32.99	21	30.43
Agree	39	40.21	26	37.68
Disagree	8	8.25	13	18.84
Strongly disagree	2	2.06	4	5.80
Neither agree nor disagree	16	16.49	5	7.25

Table 4.3 shows the frequency and the percentages of individual factors that influence the mode of delivery among participants.

Awareness: The majority of the respondents were aware of the indications of the LSCS. Awareness of the indication of LSCS among women who had SVD was 65.98(64) while a higher percentage 90% (63) of women who had LSCS had the awareness.

Among the participants who had SVD, 50.53% (48) assumed that there were risk factors of LSCS and 32.63% (31) thought that there were no risk factors while 16.64% (16) answered that they do not know. Among participants who had LSCS, 56.52% (39) said that there were risk factors of LSCS while 34.78% (24) claimed that there were no risk factors and 8.70% (6) answered that they do not know.

Knowledge: The three most noted indications of LSCS were “breach presentation” “cephalo pelvic disproportion” and “umbilical cord around the neck” in both the strata. 100% (62) of women who had SVD, and 93.33% (56) of women who had LSCS, highlighted “breach presentation” as an indication of LSCS. 93% of women in both groups noted “cephalo pelvic

disproportion" as an indication of LSCS. 91.94 % and 90 % in SVD and LSCS groups respectively answered that "umbilical cord around the neck" was an indication for LSCS.

Majority of respondents knew that blood transfusion is needed during or after the LSCS in both the strata (LSCS: 89.86%, SVD: 83.87%)

75.36% (52) who had undergone LSCS had the knowledge of how the procedure of LSCS take place while a higher percentage of people who had SVD, 78.95% (75) did not know the procedure of LSCS.

In both groups of women, the three complications arising from LSCS with the highest frequency were "Complications to the baby due to the infections occur during the C-section" (SVD: 48.39%, LSCS: 44%), "Injuries to internal organs due to C-Section" (SVD: 54.84%, LSCS: 68 %) and "Hysterectomy due to excessive bleeding" (SVD: 45.16 %, LSCS: 66 %).

Beliefs: The majority of the respondents believed SVD is safer than LSCS (SVD: 88.66%, LSCS: 68.12%).Majority of the women in both groups agreed that SVD is painless than LSCS (40.21 % (39) of women who had SVD and 37.68% (26) of women who had LSCS). Women who least agreed that SVD is safer than LSCS were slightly different between the two groups (SVD: 2.06% (2) and LSCS 5.80 % (4)). Fear of labour pain had a higher frequency among the SVD group (51.55% (50)) compared to LSCS group (33.33%).

Table 0.4: Medical factors that influence the type of delivery.

	Normal delivery (SVD)		C-section (LSCS)	
	Frequency (N=96)	**(%)**	**Frequency (N=70)**	**(%)**
Number of pregnancies				
One	38	39.58	14	20.00
Two	25	26.04	25	35.71
Three	21	21.88	18	25.71
Four or more	12	12.50	13	18.57

Table 4.4 continued	**Frequency (N=97)**	**(%)**	**Frequency (N=70)**	**(%)**
Weight of last baby at delivery:				
Less than 1.5 kg	2	2.06	4	5.71
Between 2 to 3 Kg	51	52.58	25	35.71
More than 3 kg	44	45.36	41	58.57
	Frequency (N=95)	**(%)**	**Frequency (N=70)**	**(%)**
Health status of last baby:				
Healthy	12	12.63	8	11.43
Not healthy	83	87.37	62	88.57
	Frequency (N=96)	**(%)**	**Frequency (N=70)**	**(%)**
Health status Of Mother:				
Very good	25	26.04	3	4.29
Good	55	57.29	40	57.14
About normal	14	14.58	23	32.86
Bad	0	0.00	1	1.43
Very bad	2	2.08	3	4.29
	Frequency (N=97)	**(%)**	**Frequency (N=70)**	**(%)**
Existence of any chronic disease in mother				
Yes	5	5.15	12	17.14
No	92	94.85	58	82.86

Table 4.4, illustrates the results of medical factors that influence the delivery type by frequency and percentages. Most women who had SVD had one previous pregnancy (39.58% (38)), whereas most women who had LSCS had two previous pregnancies (35.71% (25)).

Weight of the baby of last pregnancy was the second medical factor. Most of the participants who had SVD, had delivered babies with a weight in the range of 2 to 3 kg, (52.58% (51)) whereas the weight of babies delivered by most women who had LSCS, was in the range of more than 3 kg, 58.57% (41). The frequency of low birth weight which was less than 1.5kg in both the strata were very low in both the groups; (SVD; 2.06% (2) and LSCS; 5.71% (4)).

Next medical factor was heath status of the baby. Most of the respondents answered that their babies did not have any medical problem; LSCS, 88.57% (62), SVD, 87.37% (83).

Results of health status of the mother showed that a majority of women in both groups agreed that their health is good (SVD 57.29% (55) and LSCS 57.14% (40)).

The last medical factor was whether the mother suffered any chronic disease during her last pregnancy. Among all the respondents most of them, 94.85% (92) of SVD mothers and 82.86% (58) of LSCS mothers did not have any chronic disease.

Table 0.5: Non-medical factors that influence the type of delivery: Hospital, physician, social and health system related factors

Hospital factors:

	C-section (LSCS)	
	Frequency (N=64)	**(%)**
Estimated number of gynecologists at the hospital where delivery took place		
One	1	1.56
Two	2	3.13
Three	2	3.13
Four	3	4.69
More than five	42	65.63
Don't know	14	21.88
	Frequency (N=66)	**(%)**
Presence of a NICU at the hospital of LSCS		
Yes	63	95.45
No	2	3.03
Don't know	1	1.52
	Frequency (N=66)	**(%)**
Hospital stay after C-Section:		
One to two days	4	6.06
Three to four days	50	75.76
Five to six days	8	12.12
More than 6 days	4	6.06
Table 4.1.5 continued.		
Physician factors:	**Frequency (N=68)**	**(%)**
Gender of doctor who advised for C-Section		
Male	54	79.41
Female	14	20.59

Table 4.5 continued

			Frequency (N=70)	(%)
Second opinion from another physician for LSCS:				
Yes			36	51.43
No			34	48.57

Social factors:

	Normal delivery (SVD)		C-section (LSCS)	
	Frequency (N=97)	**(%)**	**Frequency (N=70)**	**(%)**
Society's influence on mode of delivery				
Yes	12	12.37	7	10.00
No	85	87.63	63	90.00

Health system factors :

			Frequency (N=70)	Percent (%)
Government subsidy for C-Section				
Yes			70	100.00

	Frequency (N=93)	Percent (%)	Frequency (N=70)	Percent (%)
Presence of health insurance				
Yes	75	80.65	53	75.71
No	18	19.35	17	24.29
	Frequency (N=74)	**Percent (%)**	**Frequency (N=54)**	**Percent (%)**
type of health insurance :				
Private party	4	5.41	3	5.56

Table 4.5 illustrates the result of non-medical factors by frequency and percentages. Among non- medical factors, firstly the results of hospital factors shows, all the respondents 100% (70) had their LSCS in IGM hospital. The majority of respondents 65.63% (42) estimated that more than five gynaecologists were working in IGMH. 95.45% (63) answered that there was NICU in the hospital and 1.52% (1) answered had no idea of availability of NICU.

Majority (75.76 %(50)) stated that the duration of hospital stay after the LSCS was three to four days.

Secondly, results of physician factors indicate, that a male gynaecologist advised for LSCS for the majority of participants (79.41% (54)). Among the respondents, 51.43 % (36) had acquired a second opinion from another physician.

Next is a non-medical social factor. Most of the women who had LSCS 90% (63) and SVD 87.63% (85) replied that no one influenced them in their decision to choose the type of delivery.

Lastly, non- medical health system factors show that 100% (70) of the participants received government health insurance for their LSCS. Majority of the respondents, 80.65% (75) of SVD women and 75.71% (53) of LSCS women were covered by a health insurance package. Among those who were not covered, the percentage was higher among women who had LSCS (24.29%) compared to SVD (19.35). Only 5.41% of SVD women and 5.56% (3) of LSCS women had private health insurance.

4.2 Inferential statistics

Contingency tables were created for all explanatory variables with the response variable and Pearson's chi squared test was conducted to see the strength of the relationship between each combination. A statistically significant relationship was found between mode of delivery and three medical factors and one non-medical factor as described below:

- Medical factor: number of pregnancies
- Medical factor: health status of the mother
-Medical factor: presence of a chronic disease of the mother
- Non medical factor: knowledge of indications of C-Section

Table 4.6: Association between number of pregnancies and delivery mode

Relative frequencies of medical factors and mode of delivery by cross tabulations: Number of pregnancies	Mode of last delivery		Total %	P- value
	Normal delivery(SVD)	C-Section(LSCS)		
	N (%)	**N (%)**	**N (%)**	
Once	38 (73.1)	14 (26.9)	52 (100)	*0.05
Twice	25 (50)	25 (50)	50 (100)	
Three times	21 (53.8)	18 (46.2)	39 (100)	
Four and more	12 (48)	13 (52)	25 (100)	

Table (4.6) shows the relation between number of pregnancies and mode of their last delivery. The result shows that there is a significant relationship between mode of last delivery and number of pregnancies. The P-value was 0.05, which is significant at P<0.05. Among women who had under gone one pregnancy, the relative frequency of having a normal delivery was comparatively higher (73.1%) compared to having C-Section (26.9%). However among women who had four pregnancies in the past, C-Section were more common (52%).

Table 4.7: Association between health status of the mother and her delivery mode

Health status	**Mode of last delivery**		**Total %**	**P value**
	Normal delivery	C-Section		
	N (%)	**N (%)**	**N (%)**	
Very good	25(89.3)	3(10.7)	28(100)	*0.0006
Good	55(57.9)	40(42.1)	95(100)	
About normal	14(37.8)	23(62.2)	37(100)	
Bad	0(2)	1(100)	1(100)	
Very bad	2(40)	3(60)	5(100)	

Table (4.7) shows the relationship between health status of the women and mode of their last delivery of them. The result clearly shows that there was a highly significant relationship between mode of last delivery and the health status of the mother. The P-value was 0.00006, which is significant at P<0.05. Among women who had very good health status, relative

frequency of having normal delivery (89.3%) was higher compared to the mothers who had a very bad health status where only 40% said they had a normal delivery. Among the women who had a very bad health status, the relative frequency of having LSCS was 60% compared to women who had a very good health status whereby only 10.7% had LSCS.

Table 0.8: Association between presence of a chronic disease of the mother and her delivery mode

Presence of chronic disease	**Mode of last delivery**		**Total %**	**P value**
	Normal delivery(SVD)	C-Section(LSCS)		
	N (%)	**N (%)**	**N (%)**	
Yes	5(29.4)	12(70.6)	17(100)	*0.02
No	91(61.1)	58(38.9)	149(100)	

Table (4.8) illustrates associations between the mode of last delivery of the mother and presence of chronic disease. The result shows that there was a significant relationship between mode of last delivery and the presence of chronic disease in the mother. The p-value was 0.02, which is significant at P<0.05. A relatively higher percentage of women who had a chronic disease have undergone LSCS (70%) while a higher percentage of women who did not have a chronic disease have under gone SVD (61.1%).

Relative frequencies of non-medical individual factors and mode of delivery by cross tabulations.

Table 0.9: Association between knowledge of indications of C-Section and delivery mode

Knowledge of indications of C-Section	**Mode of last delivery**		**Total %**	**P value**
	Normal delivery	C-Section		
	N (%)	**N (%)**	**N (%)**	
Yes	63(50)	63(50)	126(100)	*0.0005
No	33(82.5)	7(17.5)	40(100)	

Table (4.9) shows the relationship between women's knowledge of C-Section and mode of their last delivery of them. The result indicates that there was extremely significant

relationship between women's knowledge and their mode of last delivery with a p-value of 0.0005. Among women who had the knowledge of indications of C-Section there was no difference in their preference of delivery mode. However the women who do not have the knowledge of indications of C-Section (82.5%) had preferred normal delivery.

Table 0.10: Association between knowledge of LSCS procedure and delivery mode

Knowledge of C-Section procedure	**Mode of last delivery**		**Total %**	**P value**
	Normal delivery	C-Section		
	N (%)	**N (%)**	***N (%)***	
Yes	20(27.8)	52(72.2)	72(100)	*<0.001
No	74(81.3)	17(18.7)	91(100)	

Table (4.10) demonstrates the association between women's knowledge of C-Section procedure and mode of their last delivery. The result indicates that the relationship between knowledge of C-Section procedure and delivery mode was highly significant with a p-value of <0.001. It is evident that a higher percentage of mothers who had knowledge of C-Section procedure have preferred to undergo C-section(72%), while a higher proportion of mothers who did not have the knowledge of C-Section procedure preferred to go for normal delivery(81%).

5. CHAPTER (FIVE): DISCUSSION

5.1 Introduction

This chapter provides explanations from existing literature on the findings of this study derived from data that were collected from outpatients and inpatients of the postnatal clinic of the main tertiary hospital in Maldives. 97 women who had SVD and 70 women who had LSCS provided the data for this study which showed that there were individual, medical and non-medical factors that influenced the choice of delivery type that a woman prefers. Individual factors such as awareness of the risk factors and indications of LSCS and knowledge of how an LSCS procedure take place were found to be different between the two groups of women. Medical factors such as the number of pregnancies and the weight of the baby were influential factors. Non-medical factors such as society's influence on the mode of delivery and availability of health financing for delivery were similar between the two groups of women. This study also found significant association between mode of delivery and knowledge of the procedures of LSCS, knowledge of the indications for LSCS, health status of the mother, presence of a chronic disease in the mother and the number of pregnancies.

5. 2 Discussion of major findings of the study.

The average age of women in this study was 28years old and majority were married, unemployed and had an education up to O'Level. This study shows more women who underwent LSCS were in the older age group and women with higher level of education more respondents were in SVD group, and also more employed women were in SVD group. Similarly, a study done in china shows a preference for C-section was associated with advanced maternal age and women with higher level of education were found to prefer to

have SVD (Loke, Davies, & Li, Factors influencing the decision that women make on their mode of delivery: the Health Belief Model, 2015). A study done in Taiwan reported that unemployed women were more likely to have C-section than employed women (Hsu, Liao, & Hwang, 2008) which were in contrast with the findings of this study. Whereas a study conducted in Iran, unemployed women had higher score on attitudes towards SVD (Aali & Motamedi, 2005). Another research conducted in Iran show that mothers with higher level of education were more likely to have LSCS (Maharlouei, et al., 2013). Hence it can be said that the mode of delivery and the demographic characteristics of the woman depends very much on the country context.

In this study the reason noted by most participants for having an SVD was because it was the natural process, and for having an LSCS was because they thought that the baby will suffer fewer risks. These findings were similar to findings from another study which showed that vaginal delivery is viewed as a natural phenomenon, as no interferences are required (RT, PA, JH, & D., What influences a woman to choose vaginal birth after cesarean?, 2002). The same study explained that, C-section has currently become a way of avoiding labor pain and many people believe that C-section delivery is less painful, safer, and healthier than vaginal delivery. Contrasting findings were seen in a research conducted in Iran which showed that 60% of women prefer to have C-section to avoid labor pain or to control the exact time of childbirth (Torkan, Lamyian, Kazemnejad, & Montazeri, 2009). A retrospective study that was done between 2008 and 2013 showed that previous cesarean birth and multiple pregnancies as major contributing reasons for the growing trend of LSCS in the world (Gjonej, et al., 2015). Individual factors that influenced the mode of delivery identified in this study which were different between SVD and LSCS group were awareness of the risk factors and indications of LSCS and knowledge of how an LSCS procedure take place. A higher proportion of women who underwent LSCS had awareness and the knowledge compared to

the SVD group. In this study majority of the respondents in both the groups SVD and LSCS, believed SVD is safer and painless than LSCS. A research conducted in Turkey showed contrasting results where respondents had a common belief that LSCS is painless, safer, and healthier than vaginal delivery (Tatara, Günalpb, Somunoğlua, & Demirolb, 2000). On the other hand another study shows, due to positive outcome for both mother and baby, generally, they believed that vaginal delivery was less risky than C-section (RT, PA, JH, & D, What influences a woman to choose vaginal birth after cesarean?, 2002). A research conducted in North Iran, showed that sometimes mothers who did not have sufficient information about the mode of delivery or the procedure, decline to undergo C-section even when this procedure is important for prevention of maternal and fetal risk (Zakerihamidi, Roudsari, & Khoei, 2015).Results highlight the importance of providing the appropriate knowledge and awareness about the modes of delivery to women during pregnancy.

This study shows, among medical factors that influenced the type of delivery, the number of pregnancies and the weight of the baby were influential factors whereby most mothers who had SVD had one pregnancy whereas the LSCS group had more than one pregnancy. Weight of the baby was more than 3kg for most of the LSCS women whereas the SVD group had lower than 3kg. On the contrary, research conducted in 2013-2014 in Isfahan, Iran, shows birth weight of baby from normal delivery were higher than C-section (Ghahiri & Khosravi, 2015). A study that measured the changed indications for caesarean sections using obstetric hospital records from 1992 to 2005 showed that in 1992, the indications for an elective caesarean were a pathological foetal lie or a uterine factor while in 2005 the dominant indications for an elective caesarean were more psychological such as maternal fear of childbirth (Stjernholm, Petersson, & Eneroth, 2010). This study found a highly significant relationship between the mode of delivery and knowledge of the procedures of LSCS, knowledge of the indications for LSCS, health status of the mother, presence of a chronic

disease in the mother and the number of pregnancies. A similar result was seen in a research conducted in Canada, where patients with perianal crohn's disease were also significantly more likely to have LSCS (Ilnyckyj, Blanchard, Rawsthorne, & Bernstein, 1999). A study of Australian women showed that women who preferred a caesarean section were generally poorly informed of the risks of the procedure ((Gamble & Creedy, 2001) which was different from this study finding. More determinants were identified by researchers from USA (Yang, Mello, S.V.Subramanian, & Studdert, 2009), Brazil (Béhague, Victora, & Barros, 2002) and the island of La Reunion (Barau, et al., 2006) that were associated with mode of delivery. They have noted significant relationships between mode of delivery and pre pregnancy BMI level, where the leanest mothers had the highest rate of vaginal delivery and with malpractice premiums which were positively associated with caesareans but negatively associated with vaginal deliveries. Brazilian women showed that social power and the woman's behaviour towards seeking medical health care were significantly associated with the type of delivery (Dominique P Béhague etal, 2002).

5.3 Limitation of the research

Due to the limited time frame for this research (3 months), a quantitative approach was applied. However, a qualitative component could have acquired in depth knowledge about the factors that affect the choice of delivery method.

In addition, all the factors that influence were not assessed in this research. There will be many other factors which might influence the rate of C-section if a more in depth literature review is conducted.

Data was collected from women who recently (delivered only within last two months) delivered in IGMH, but the sample was calculated according to the total number of deliveries had taken in 2015. It is imposable to collect data from all women who delivered in 2015.

5.4 Conclusion

This study identified individual factors, medical factors and non-medical factors that influenced the type of delivery mode a woman chooses.

Individual factors that were most influential include awareness of the risk factors and indications of LSCS and knowledge of how an LSCS procedure take place which were found to be different between the two groups of women. Medical factors such as the number of pregnancies and the weight of the baby were influential factors. Non-medical factors such as society's influence on the mode of delivery and availability of health financing for delivery were similar between the two groups of women. This study also highlighted a statistically significant association between the mode of delivery and knowledge of the procedures of LSCS, knowledge of the indications for LSCS, health status of the mother, presence of a chronic disease in the mother and the number of pregnancies.

6. CHAPTER SIX: RECOMMENDATION

RECOMMENDATION

This research focused only one hospital of Male' and hence future research should target women from all hospitals of Maldives which will make it more representative and reliable. Though the sample taken was 50% of actual sample, the result shows the association between factors and mode of the delivery. It has identified the need to provide knowledge and awareness to women on the different types of delivery method. As mentioned earlier, this is the first research done on this subject, IGMH which is the main tertiary hospital and other government or private providers can use this research as a baseline research to explore more factors that influence increasing C-sections in Maldives. Using this research the Ministry of Health can focus on ways to reduce the rate of C-sections to fit to the WHO recommended proportion of C-sections in a country. Also this research can be generalised to hospitals in settings similar to IGMH.

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APPENDICES

APPENDIX 1: Informed consent form (English)

Factors influencing the increasing rate of caesarean section in public tertiary hospital IGMH in Male', republic of Maldives.

My name is Madheeha Ahmed from Maldives National University, Faculty of Health Sciences, doing bachelor of Primary Health care. This research is a part of my course identifying the Factors influencing the increasing rate of caesarean section in public tertiary hospital IGMH in Male.

Your participation in this survey will support me in identifying and understanding factors related to increasing C-Section. The data collected from participants will be used only for research purposes and all the answers you gave will be kept strictly confidential. The results of this study will be presented as numerical form and individual participants will not be identified in presentations and publications.

Your participation in this survey is autonomous. Also participant has rights to withdraw his/her participation at any time during the research. Furthermore, participating in this research does not cause any harm to the respondents and there will be nothing that the respondents must be responsible.

I received full information regarding this study. As well as, agree to participate in this study voluntarily and agree to give information for purposes of this study.

Date: _____

Signature: _____

APPENDIX 2: Informed consent form (Dhivehi)

އިންފޯމްޑް ކޮންސެންޓް ފޯމް

ދިރާސާ ކުރިއަށްގެންދާ ފަރާތް

އަޅުގަނޑު މަދިހާ އަޙްމަދު، އަކީ ދިވެހިރާއްޖޭގެ ޤައުމީ ޔުނިވަރސިޓީގެ ފެކަލްޓީ އޮފް ހެލްތް ސައިންސަސްގައި ބެޗެލަރ އޮފް ޕަބްލިކް ހެލްތް ކޯހަށް ކިޔަވަމުންދާ ދަރިވަރިއެކެވެ. މި ކޯހުގެ ފަހު އަހަރުގެ މާއްދާއެއްގެ ގޮތުގައި ހިމެނޭ ރިސާޗް ޕްރޮޖެކްޓް ފުރިހަމަ ކުރުމަށްޓަކައި، ހަމަ ދިރާސާއެއް ކުރިއަށް ގެންދިއުމަށް ތިޔަބޭފުޅާގެ އެއްބާރުލުން ބޭނުންވެއެވެ. އަޅުގަނޑުގެ ދިރާސާ ހާއްސަ ކުރެވިފައިވަނީ މާލޭގައި ގިނަބައިވަނީ ސިއްޙީ ބިރުވެރިކަން ދިމާވާ ސަބަބުތައް ދެނެގަތުމަށެވެ. އެގޮތުން މި ދިރާސާގައި ސުވާލުކުރެވޭނީ ހަމަ ފަރާތްތަކުގެ ގުޅުންހުރި ގިނަ ފަރާތްތަކަށް ކުރިއަށް ބަލައި ހޯދާ މައުލޫމާތުތަކުން ބޭނުންކުރެވޭނެ ގޮތަކަށެވެ. އެގޮތުން ސުވާލުތަކަށް ޖަވާބު ދިނުމަށް ތިޔަބޭފުޅާގެ އެއްބާރުލުން އެދެމެވެ.

ދިރާސާގެ ބައިވެރިން

މި ދިރާސާގައި ބައިވެރިވުމާއި ނުވުމުގެ ފުރިހަމަ އިޚްތިޔާރު ތިޔަބޭފުޅާއަށް ލިބިގެންވެއެވެ. މިކަމުގައި ބައިވެރިވި ކަމުގައި ވިޔަސް ކޮންމެ ވަގުތަކުވެސް އެއްވެސް ސަބަބެއްކާއިނުލައި މި ދިރާސާއިން ވަކިވުމުގެ ފުރިހަމަ އިޚްތިޔާރު ތިޔަބޭފުޅާއަށް ލިބިގެންވެއެވެ. މި ދިރާސާގެ އެއްވެސް ސުވާލަކަށް ޖަވާބު ނުދިނުމުގެ ފުރިހަމަ އިޚްތިޔާރު ތިޔަބޭފުޅާއަށް ލިބިގެންވެއެވެ. އަދި ހަމަ އެހެންމެ، ދެން މި ދިރާސާއިން ވަކިވުމުގެ ފުރިހަމަ އިޚްތިޔާރު ދިރާސާގެ ކޮންމެ ހިސާބަކުންވެސް ލިބިގެން ވެއެވެ. ހަމަ އެއާއެކު، ތިޔަބޭފުޅާ އެދިލައްވާނަމަ ދިރާސާ ކުރާ ފަރާތުން ތިޔަބޭފުޅާގެ އެއްވެސް މައުލޫމާތެއް ބޭނުން ނުކުރުމަށް އެދުމުގެ ފުރިހަމަ އިޚްތިޔާރުވެސް ތިޔަބޭފުޅާއަށް ލިބިގެންވެއެވެ. މި ސުވާލު ކަރުދާހަށް ލިޔެ ބޭފުޅާ ދެއްވާ މައުލޫމާތުތަކަކީ ފުރިހަމަ ސިއްރު ހިފެހެއްޓޭނެއެވެ. އަދި މި މައުލޫމާތުތައް ބޭނުން ކުރާނީ ހަމައެކަނި ދިރާސާގެ ކަންކަމުގައި އެކަނިއެވެ. ނަމަވެސް ސުވާލު ކަރުދާހުގައި މައުލޫމާތަށް ތިޔަބޭފުޅާގެ އަމިއްލަ މައުލޫމާތުތަކެއް އެނގޭނެ ގޮތަކަށް އެއްވެސް މައުލޫމާތެއް ބޭނުމެއް ނުކުރާނަމެވެ.

މި ދިރާސާއާއި ބެހޭގޮތުން ސުވާލުކުރުމުގައި އާ ސުވާލުތަކަށް އަޅުގަނޑުގެ ފަރާތުން ޖަވާބު ހޯދުމުގެ އިޚްތިޔާރު މި ދިރާސާގެ ކުރިންނާއި ދިރާސާކުރަމުންދާއިރު އަދި ފަހުންވެސް ލިބިގެންވެއެވެ. މި ދިރާސާއާއި ބެހޭގޮތުން ލިބޭގޮތުގެ އިތުރު އެއްވެސް ސުވާލެއް ވާނަމަ މި ނަންބަރާ އީމެއިލް އެޑްރެސް ގުޅުއްވުމުން ކޮންމެ ވަގުތަކުވެސް އަޅުގަނޑަށް އެކަން އެންގިދާނެއެވެ.

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އަޅުގަނޑުގެ ނިންމުން:

އަޅުގަނޑު، މަތީގައިވާ "އިންފޯމްޑް ކޮންސެންޓް ފޯމް" ކިޔައި މި ދިރާސާގައި ބައިވެރިވުމަށް އެއްބަސްވަމެވެ. މި ދިރާސާގެ މަޤްސަދު އަޅުގަނޑަށް ވަނީ ރަނގަޅަށް ވިސްނިފައެވެ. މި ދިރާސާގައި ބައިވެރިވުމަށް ނިންމީ މުޅިން އިޚްތިޔާރީ ކަމެއްކަމުގައި

ތަކުރާރުކުރާ ގޮތަށް ބަދަލުތައް ގެނައުމަށް ކަންކަން ކުރުމަށް ކުރިއަށް ގެންދާ ކަންކަމުގެ ތަފްޞީލު ލިޔުއްވުން.

ތަކުރާރުކުރާ ގޮތަށް ބަދަލުތައް ގެނައުމަށް ކަންކަން ކުރުމަށް ކުރިއަށް ގެންދާ ކަންކަމުގެ ތަފްޞީލު ލިޔުއްވުން.

ތަރުޖަމާ ކުރި ފަރާތުގެ ނަން: .....

ތާރީޚް:.....

ސޮއި:.....

APPENDIX 3: Questionnaire (English)

Factors influencing the increasing rate of cesarean section in public tertiary hospital Male', Maldives.

Section 1, (Socio dimorphic factors)

1- Age:	2- T.Atoll & Island:
3- Marital Status:	

4. What is your educational standard?
   a. Below grade 7
   b. Grade 10
   c. Secondary education (O/L level)
   d. High secondary education (A/L level)
   e. Bachelor degree and above.

5. Are you employed?

   a. Yes (if yes only, ask Q3).
   b. No (If no, what is the monthly income of your household?)

6. What is the monthly income of your household?

7. What is your monthly income? _____

Section 2, (Awareness, Knowledge and Believes)

8. Do you believe normal delivery is safer than C-Section?
   a. Yes
   b. No
9. Normal delivery/ vaginal delivery is pain less than C-Section?

   a. Strongly agree

   b. Agree

   c. Disagree

   d. Strongly disagree

   e. Neither agrees nor disagrees.
10. Are you fear of labour pain?
    a. Yes
    b. No

11. Did society (friends, family members etc.) have any influence you to undergo a C-section or natural birth?
    a. Yes (specify) Husband ☐ , Mother ☐ , Friend ☐, Family Member ☐ ,Other ☐
    b. No
12. Do you know how the C-section procedure is take place?
    a. Yes
    b. No

13. Are you aware of indications of C-section?
    a. Yes (if yes only ,go to next Q)
    b. No

14. In your opinions what are the 3 indications of C-section below?
    a. Baby in breach presentation
    b. Mother is having fever
    c. Cephalo-Pelvic disproportion
    d. Umbilical cord around the neck
    e. Mother is thalassemia carrier

15. Are there any risk factors of C-section?
    a. Yes
    b. No

16. In your opinion what are the 3 complications of C-section below? If none of the below is accepted, specify the risk complications that you know.
    a. Complications to the baby due to the infections occur during the C-section
    b. Hypertension and obesity
    c. Injuries to internal organs due to C-Section
    d. Having Asthma after C-section
    e. Postpartum death
    f.Hysterectomy due to excessive bleeding.
    g. Other……..

17. Do you believe, blood transfusion may have done during or after the C-section procedure?
    a. Yes
    b. No

Section 3, (Health Status)

18. How many times have you ever been pregnant?
    a. Once

b. Twice
c. Three times.
d. Four and more

19. What was the mode of your last delivery?

a. Caesarean section
b. Normal delivery

20. What do you think about your health status?

a. Very good
b. good
c. about normal
d. bad
e. Very bad

21. Did you suffer any chronic disease during pregnancy?

a. No
b. Yes (specify)……

22. What was the weight of the bay in your last pregnancy?

a. Less than 1.5 kg
b. Between 2 to 3 Kg
c. More than 3 kg

23. Does your baby have any health condition?

a. Yes (specify)…….
b. No

24. Did you undergo C-section?

a. Yes (If yes leave the 22nd Question)
b. No

25. Tick the reasons that you under go for normal delivery other than cesarean.

☐ It is a natural process and unnecessary for caesarean section
☐ Want to experience the process of birth
☐ The baby born by natural process is much smarter
☐ The baby born by natural process is healthier
☐ The mother will suffer fewer risks
☐ The natural birth is cheap
☐ The mother will recover much fast
☐

No scar on abdomen

☐ Beneficial for breastfeeding

Others_____

Section 4, (this section is for people who has done cesarean section)

26. Which hospital did you do your C-section?_____

27. How many gynecologist doctors are available in the hospital that you have taken C-section?
a. One
b. Two
c. Three
d. Four
e. More than five.

28. What is the gender of your physician who advised you have to go for C-section?
a. Male
b. Female

29. Did the hospital that you have taken LSCS have a Neonatal Intensive Care Unit (NICU)?
a. Yes
b. No

30. Did you get second opinions from another doctor before C-section?
a. Yes
b. No

31. What was the cost of C-section?
_____

32. How much did you pay out of pocket for the C-section
_____

33. After the C-section, normally how many days have to stay in the Hospital?
a. 1 or 2 days
b. 3 or 4 days
c. 5 or 6 days
d. More than 6 days

34. What was the reason for your first C-section? (For those who had C-section).

a. Size of the baby
b. Baby was in breech presentation
c. Risk to mother.
d. Umbilical code around the neck.

e. Cephalo-Pelvic disproportion
f. Other. Specify _____

35. Tick the reasons that you under go for C-section:

☐ Be afraid of the pain from the natural birth process
☐ Lack confidence and be worry about the natural birth process
☐ Can choose the birth date
☐ The baby will suffer fewer risks
☐ The mother will suffer less risks
☐ Have been experienced caesarean birth
☐ Abnormality was found during the prenatal examination;
☐ Less influence to the married life

Others specify_____

Section 5 (Other).

36. Do have health insurance?
a. Yes
b. No

37. Your health insurance is covered by government party or private party?
a. Government (Aasandh).
b. Private Party. (If so specify the group)…….

Thank You.

APPENDIX 4: Questionnaire (Dhivehi)

ދާންވެރި ހޯދުމުގެ ގޮތުގައި ބޭނުންކުރާ ސްޓްރެޓަޖީގެ ތަފާތުތަކާ ގުޅުވައިގެ ސްކޫލުގެ ކާނާ ތަކުގެ ސާމްޕަލް.....

ފުރަތަމަ ބައި: ތިލަގަނޑުގެ ބަދަލުތަކާ ގުޅޭ ދާއިރާ

ތާރީޚް:	ހިސާބު ތިލަގަނޑުގެ ތަކެއްޗާ ކަންކަން:	ފުރިހަމަ ކުރާ ތަނާ ތަނުގެ ނަންބަރު:
ކަނޑައެޅިފައި ހުންނަ: ދުވަހުގެ ކާނާ ތަކުގެ ސާމްޕަލް	ކަނޑައެޅިފައި ނުހުންނަ	ފަހަރުގެ ނަންބަރު

1. ތަކެއްޗުގެ ފުރިހަމަކަން
   ހ. ގޯތި 7ށ ދަށް
   ށ. ގޯތި 10
   ނ. ރޯދަ
   ބ. ދަށ ފަހަރުގެ ތަކެއްޗެ
   ޅ. ކާނާ ތަކުގެ ސާމްޕަލް ގަނެ ދުވަސް ގާތް

2. ކިހިނެއްތޯ ތަނަށް ގެންނަވަނީ؟
   ހ. ތާއަށ (ސަފުހާ 3 ދިވެހިރާއްޖެ)
   ށ. ހުށަހެ.

3. ގާތަށ ދަނުވަންދެން ތަކެއްޗާ ގުޅިގެންވާ ކިހާ ވަގުތެ ތަނަށ ދާ ކަށ؟
.....

4. ދަރ ދަސްތަ (ދަސްތަ ހިސާބު ގަނެ ދާ) ތަކެ ކިހާ ވަގުތެ ދާ ކަށ؟
.....

ދުވަހުގެ ތަކެއްޗާ، ތަނ ހުށަހެޅުމުގެ ގޮތާ ގުޅޭ ކަންކަ

5. ފުރުމަ ސްޓޯ ތަކެ ގަނެ ދާ ތަނ ކަނޑައެޅިފައ ނުވާ ކަ ހުށަހެ ކަ؟
   ހ. ގޯތި ށ. ހުށަހެ

6. ފުރުމަ ސްޓޯ ތަކެ ގަނެ ދާ ތަނ ކަނޑައެޅިފައ ނުވާ ކަ ހުށަހެ.(ތަކެ ގަނެ ދާ ތަނ ދާ ގޮތ ގަ ކަ ގުރ ގުރ)
   ހ. ކަނ ކަ ގަ ކަ

ށ. ގަޑިއަކަށް

ނ. ގަޑި ދެއަކަށް

ރ. ގަޑި ތިންއަކަށް

ބ. ގަޑި ހަތަރެއްގެ ކުރިން ދެވުނު ކަމަށް

7. ފުރިހަމަ ވާހަކަ ދެކެވޭނީ ކޮބައިކަށް؟

ހ. ހާދަ ނ. ދެން

8. ސައިންސްތަކުން ހަނދާންކުރާ ތަނަވަސް ފުރިހަމަ ވާހަކަ، ދަތިވަމުން ދާ ތަނަކަށް ވަދެ ކަންކަން ކުރުމުގެ ކުރިން ކުރާ ކަންކަމެއް ކަމަށް ބުނެވޭ ތަނަކަށް ދަންނަވާ ނަންބަރު ކޮބައިކަށް؟ (ހާދަ ބައެއް ތަކުން ބޭނުންކުރާ ކަންކަމެއް ކަމަށް ބުނެވޭ ތަނަކަށް ދަންނަވާ ނަންބަރު ކޮބައިކަށް؟)

ހ. ހާދަ ބ. ފެނިސިލިން ، ކަލްކަ ، ކަލްޝިއަމް ، ހާދަފުޅު ، ބައްސާ ، ކެލްސިއަމް

ނ. ދެން

9. ސައިންސްތަކުން ފުރިހަމަ ވާހަކަ ދެކެވޭ ގޮތަކަށް ކަންކަން ކުރުމުގައި ބޭނުންކުރާ ކަންކަމެއް ކަމަށް ބުނެވޭ ތަނަކަށް ދަންނަވާ ނަންބަރު ކޮބައިކަށް؟

ހ. ހާދަ ނ. ދެން

10. ސައިންސްތަކުން ކަނޑާ ދުރުގައި ހުންނަ ތަންތަނާ ގުޅުވައިގެން ބޭނުންކުރާ ކަންކަމެއް ކަމަށް ބުނެވޭ ތަނަކަށް ދަންނަވާ ނަންބަރު ކޮބައިކަށް؟

ހ. ހާދަ ނ. ދެން (11 ވަނަ ސުވާލުގެ ފަށުގައި ބަލާ)

11. ސައިންސްތަކުން ކަނޑާ ދުރުގައި 3 ދުރުގައިވާ ކަންކަމެއް ކަމަށް ބުނެވޭ 3 ގޮތަކަށް ވަގުތީ ދަތިވުމެއް ނެތި ދެކެވޭ ގޮތަކަށް!

ހ. ދެކެވޭ ބައިތާ ދެކެވޭ ގޮތް (ފެންނަ ގޮތް) ބަދަލުކުރުން.

ނ. ދަންނަވާ ހުންނާ ގޮތް.

ރ. ވިސްނި ދެކެވޭ ގޮތް.

ބ. ދެކެވޭ ބައިގައި ކުށްވެރިވާ ގޮތް ބަދަލުކުރުން.

ދ. ދަންނަވާ ތަކެއްގެ ކުށްވެރިކަން ކަށަވަރުކުރުން.

12. ތިމަންގެ ކަންކަމުގައި ބޭނުންކުރާ ސައިންސްތަކުން ފުރިހަމަ ވާހަކަ ދެކެވޭ ގޮތަކަށް ދަންނަވާ ނަންބަރު ކޮބައިކަށް؟

ހ. ހާދަ ނ. ދެން

13. ތިމަންގެ ކަންކަމުގައި ބައެއް ތަކުން ސައިންސްތަކުން ފުރިހަމަ ވާހަކަ ދެކެވޭ ގޮތަކަށް ކަންކަން ކުރުމުގެ ކުރިން ދެވޭ ގޮތަށް ތިމަންގެ ކަންކަމުގައި ބައެއް ތަކުން ބޭނުންކުރާ ކަންކަމެއް ކަމަށް ބުނެވޭ ތަނަކަށް ދަންނަވާ ނަންބަރު ކޮބައިކަށް؟

ހ. ސިއްކަހައި ހިންގުމުގެ ތަނުގައި ދެ ގަޑިއިރަށްވުރެ ގިނަ ވަގުތު ހުރުން.

ށ. ފާރުގައި ގަދަ ލައިޓެއް ހުރުން.

ނ. ހަނގުރާމަ ކުރާ ތަނުގައި ބޭނުންކުރާ ކަރަންޓް ވައިޔަރ ބަދަލުކުރުން.

ބ. ކައުންޓަރ ބޯ ހުންނަ ތަނުގައި ބޭނުންކުރާ ކަރަންޓް ވައިޔަރ ބަދަލުކުރުން.

ރ. ތަކެތި ބަހައްޓާ ގޯނި ބަދަލުކުރުން (ފެންވަރުގެ ގޯނި)

ޅ. ފާރުގައި ހުންނަ ކުރިއަށް ދާ ގޮތް ބަލައިދިނުން ފެންނަން.

ތާރީޚް .....

14. ސިއްކަހައި ހިންގުމުގެ ތަނުގައި ކަންކަން ކުރުމަށް ދަރަނި ގެނެވޭ ގޮތް ބަލާ ބަދަލު ކުރާ ގޮތް ކީކޭ؟

ހ. ހާއަށް ށ. ދެން ބަލާ

ޚިދުމަތްތަކާއި: ފިލްމްކުރުމުގެ ތަކެތިއާ ގުޅިގެން

15. ތަކެތި ހިނގާ ގޮތް ކިތަންމެ ގޯނިތަކެއް؟

ހ. 1 ގޯނި

ށ. 2 ގޯނި

ނ. 3 ގޯނި

ބ. 4 ގޯނި ދެން ވެސް ބޭނުންކުރާ ގޮތަށް ގޯނި.

16. ބޭނުންކުރާ ގޯނި ފިލްމްކުރާ:

ހ. ވީޑިޔޯ ށ. ސިއްކަހައި ފޮޓޯ

17. ލައިޓްކުރާ ސަރަޙައްދު ދުރު ހުރާ ގޮތް ކިހިނެއް؟

ހ. ވަރަށް ގަދަކަމުން

. ގަދަކަމުގެ ގޮތުން ށ. ގަދަކަމެއް

ނ. ދުރު ހިނގާ ގޮތުން ބ. ވަރަށް ގަދަ

18. ފާހަގަ ކުރަންވާ ކަންކަމަށް ބަލާ ކަންތައް ކިތަންމެ ހާސިލުވާ ވީހާ؟

ހ. ހާއަށް (ކަންތައް ހާސިލުވާ ގޮތް)_____

ށ. ދެން ބަލާ

19. ތިންފަދަ ތަކެތިތަކުން ހެއްދެނީ ކިހާ ބާވަތެއް؟

ހ. 1.5 ބާ. ތަން ފުދޭ ދުއްވާ

ށ. 2 ބާ. ގޮތް 3 ބާ. ގ ދުލުވާ

ނ. 3 ބާ. ތަން ފުދޭ ހަދާ

20. ތިންފަދަ ވިޝަން ތަކެތިތަކުން ހިމެނެނީ ކޮބައިކަށް ހެދިފައި؟

ހ. ގޮތް (ކަންކަން)_____

ށ. ދެއްކެ

21. ތިންފަދަ ތަކެތި ތަކުންތަކުން ހަދާ ގޮތް ކިހާ ދުވަހަކަށް؟

ހ. ގޮތް (ގޮތް ތަކުގެ 22 ވަނަ ފާހަގަ ދުވަހުގެ)

ށ. ދެއްކެ

22. ތަކެތި ތަކުންތަކުން ތަކުގެ ވަކި ގޮތެއް ކަމުގައި؟ (ތަކެތި ތަކުންތަކުން ތަކުގެ ގޮތްތަކުގެ)

ހ. ވަކިވަކި ތަކެތި ގުޅުވައި ތަކެތި ތަކުންތަކުގެ ގޮތް ކަމަށް ކަންކަން ދެއްކުން

ށ. ގުޅުވައިގެ ގޮތުގެ ވަކިވުގެ ތެރެއިން ބަލައިގަތުން

ނ. ގުޅުވައިގެ ގޮތުގެ ވަރ ބަލައިގަތުން ލ ދެއްވުން

ބ. ގުޅުވައިގެ ގޮތުގެ ވަރ ބަލައިގަތުން ތަކެތި ބަލައި ގަތުމުގެ

ދ. ހަމައަށ ތަން ބިނާކުރ ކަންކަން ކުރުމަށ

ވ. ތަކެތި ތަކުގެ ގުޅުވައި ތަކެތި ބަލައި ގަތުން

ފ. ގުޅުވައިގެ ގޮތުގެ ތަކެތި ބަލައި ގަތުން

ކ. ގުޅުވައިގެ ގޮތުގެ ތަކެތި ބަލައި ގަތުން

ތިމާގެ ކަންތައް: _____

ތަކެތި ތަކުންތަކުގެ: ތަކެތި ތަކުގެ ވަކި ގޮތެއް ކަމުގައި

23. ތިމަ ދެކުނު ތަކެތި ތަކުގެ ގޮތުގެ ތަކެތި ދެކެ ދެކެ ތަކެތި ތަކުގެ ؟

_____

24. ތިދެކުނު ތަކެތި ތަކުގެ ގޮތުގެ ތަކެތި ތަކުގެ ތަކެތި ތަކުގެ ތަކެތި ތަކުގެ ތަކެތި ތަކުގެ؟

ހ. ތަކެތި ތަ ށ. ގުޅުވައި ނ. ތ ތިމާ ބ. ތަކެތި ދ. ތަކެތި ތަ ވ. ގުޅުވައިގެ ގޮތުގެ ތަކެތި ތަ

25. ތިބާގެ ހޭދަކުރާ ގޮތުގެ ތެރެއިން ކޮންކަމަށް ގިނަ ފައިސާ ހޭދަ ކުރަނީ؟

ހ. ތަކުރުގެ ދަށުގައި ށ. ފާރުގެ ދަށުގައި

26. ހޭދަކުރާ ގޮތުގައި ފަސްދުވަހުގެ ކުރިން ހަރުދަ ކުރެއްވި ބަޔަކު ހުރިތޯ؟

ހ. ވާހަކަ ށ. ނޫން

27. ހޭދަކުރާ ގޮތުގައި ތަކުރުގެ ކަންކަން ބަލައިގަނެ ގަސްދު ކުރިއަށްތޯ؟

ހ. ވާހަކަ ށ. ނޫން

28. ހޭދަކުރާ ގޮތުގެ ސަބަބުތަކެއް ލިޔުއްވާ؟

_____

29. ހޭދަކުރާ ގޮތުގެ ތެރެއިން ތަފާތުވާ ތަކެއްގެ ލިޔުއްވާ؟

_____

30. ހޭދަކުރާ ގޮތުގެ ތެރެއިން ގެންދާ ގޮތުގައި ފަސްދުވަހުގެ ތެރޭގައި ގެއަށް ގެނެވޭ ތަކެތި ގިނަ ފަހަރު ދުވަސްތޯ؟

ހ. 1 ދުވަހަށް 2 ފަހަރު

ށ. 3 ދުވަހަށް 4 ފަހަރު

ނ. 5 ދުވަހަށް 6 ފަހަރު

ބ. 6 ފަހަރުން ގިނަ ދުވަސް.

31. ތަކުރުގެ ގޮތުގައި ހޭދަކުރާ ތަކެތީގެ ލިސްޓެއް ހަދާފައި ހުންނަ ؟

ހ. ތަކެއްޗާ ދެކޮޅަށް

ށ. ތަކެއްޗާ ގުޅިގެން

ނ. ގަސްދުގައި ހުންނަ ދުވަސްތަކުގެ

ބ. ތަކެއްޗާ ގުޅިގެން ދުވަސް ކަނޑައެޅުމުގެ

ތަފްސީލު: _____

32. ހޭދަކުރާ ގޮތުގެ ތެރެއިން ކިހާ ފައިސާ ހިފެހެއްޓުމަށް ގޮތެއް ހަދާފައި ހުންނަ؟ (ތަކެއް ހަފްތާއަކު ގަނެ ހަފްތާ ދެއަކު ބޭނުންކުރާ)

ހ. ފުރިހަމަ ބަޖެޓެއް ތަކެތި ގަނެ ބަލަހައްޓަން

ށ. ތަކެތި ގަނެ ހަފްތާ ދެއަކު ތަކެތި ގަނެ ބަލަހައްޓަން ކުރާ ގޮތަކަށް

ނ. ފުރިހަމަ ދުވަސް ހަމައެއަށްވުމުގެ ކުރިން ފައިސާ ހުއްޓާލުމަށް

ބ. ތަކެތި ގަނެ ބަލަހައްޓަން ކަނޑައެޅި ދުވަސް ނުވަތަ ގަސްދެއް

ޅ. ގަސްދު ނުކުރާ ކަމަށް

ޅ.   ކުރިންވެސް ސިޓީޒަން ހަދާފައިވާތީ

ކ.   އައިޑީކާޑުއް ހުރިކަން ފާހަގަވީމައި

އ.   ކައިވެނީގެ ހައްގުގައި ކޮންފަށް އަސަރު ކުރަށްދުވަސް

އުފެދުން: ____

ފަސްވަނަބައި: އުފެދުން ކަންތައް

33. ހެދުމު އިންސާނަކަށް ހަދާފައިވާތީ؟   ހ.   އާއެކެ   ށ.   ނޫނެކެ

34. އިންސާނަކަށް ކޮންފައިވަނީ ސަރުކާރު ނުވަތަ އަމިއްލަ ފަރާތަކުންތޯ؟

ހ.   ސަރުކާރުން (އާސަންދަ)   ށ.   އަމިއްލަ ފަރާތަކުން (ކޮންފަރާތަކުންކަން ބަޔާންކޮށްދީ)________

ޝުކުރިއްޔާ.....

APPENDIX 5: Delivery statistics

IGM Hospital						
Years	**Total births**	**Vaginal deliveries**	**C-S**	**Other types of deliveries**	**V-D in %**	**C-S in %**
2011	2605	1405	1131	69	53.93	43.42
2012	2823	1676	1101	46	59.37	39.00
2013	3035	1755	1210	70	57.83	39.87
2014	2836	1666	1126	44	58.74	39.70
2015	2506	1458	1034	14	58.18	41.26
2016 *	1203	634	565	4	52.70	46.97
ADK Hospital						
Years	**Total births**	**Vaginal deliveries**	**C-S**	**Other types of deliveries**	**V-D in %**	**C-S in %**
2011	1288	689	484	115	53%	38%
2012	1552	732	685	135	47%	44%
2013	1631	719	774	138	44%	47%
2014	1760	786	822	152	45%	47%
2015	1745	825	798	122	47.28	45.73
2016 *	842	458	309	75	54.39	36.70