

CHAPTER III :

RESEARCH METHODOLOGY

3.1 Introduction

In achieving the objectives of this research, this chapter elaborated on the methodological approach including research design, sample selection, research settings, research phases, data collection methods, data analysis and data validity applied in this research.

Research can be best defined as a “method for investigating and collecting information aimed at the discovery of new facts or interpretations of existing information, in order to discover or revise facts, theories and applications.” (Kasi, 2009)

3.2 Research Design

According to Creswell (2014), research design can be defined as methods or procedures in collection and analysis the variables in order to specify the problem research while Merriam & Tisdell (2016) mentioned it is an approach how to conduct the research.

This study employed the qualitative methodology. Qualitative means “an inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants and conducted in a natural setting” (Creswell, 2014). Research paradigm is divided into

two; Positivism and Interpretivism. This research is an interpretivism yet within the lens of Islamic foundation and relied on *fiqh* normative research system.

Shadi (2013) enunciated that “*fiqh* is a comprehensive normative system that contains wide range of topics, almost all aspects of a man's life, from rituals (i.e; body purity, prayer, fasting), to morality (ie; sinfulness of arrogance or backbiting), and law in various aspects which including marriage, finance, land renting, trade contract among others.” This approach of *fiqh* normative system derived from variation of intellectual resources either classic or contemporary orientation.

The research employed a bounded system; The “what” of the unit of which there are boundaries upon what is going to be studied (Merriam & Tisdell, 2016). Thus, case study is more appropriate. A case study is a research methodology that has commonly used in social sciences (Press Academia, 2018). While Merriam & Tisdell (2016) quoted Yin's definition of study case as “an empirical inquiry that investigates a contemporary phenomenon the ‘case’ within its real-life context, especially when boundaries between phenomenon and context may not have clear evident”. In this research, the case study is highlighted the problem of the research and to achieve the research objectives.

The third stage concentrated on the analysis and evaluation process to achieve the objective, in reviewing the decision. The aspects that were considered in analysis stage were the relevancy of parameter proposed as a useful tool for shariah researchers and students to determine the legal rule for LMWH usage pertaining to this case. These consisted of, first, analyzing with Cohen's Kappa's evaluation over research data obtained from medical doctors and shariah experts'. Secondly, analyzing the findings related to thromboprophylaxis treatment with LMWH under *darūrah*, *hājah* and *istiḥālah* principles separately.

3.3 Research Phases, Tasks and Outcomes

This research was conducted in three main sequential stages in order to identify the shariah principles towards this medical treatment with unlawful substances. The principles were aimed to propose a parameter which can determine whether the decision shall be prohibited or allowed due to current factors. The research stages, the research tasks and outcomes were graphically represented in figure 1.9.

In the first stage, the purpose was to generate an essential understanding of the area of study. This engaged two main steps. It consists of defining the research problem/focus and reviewing of relevant literatures. The literature review was conducted across the context of risk factors of VTE event during pregnancy and puerperium, the anticoagulants used in Malaysia in treating mothers who are at risk from medical discipline while from shariah perspective the research focused on jurists' terminologies pertaining to the shariah principles. *Fiqh* discipline involved classical and contemporary books were aligned to the data collected from literatures and interviewees.

Problem formulation based on literature review which suggests that (a) the statistic of maternal mortality related to VTE is alarming nowadays in Malaysia (b) the MCMKI decision in 2009 with regards to the Islamic ruling of LMWH which is prohibited except in *darūrah* situation. However, it is considered as non-applicable particularly in pregnancy and puerperium (c) there is non-existence of halal alternative of anticoagulant to replace LMWH with similar efficacy, safe, feasibility and bioavailability in order to preserve two lives; mothers and fetuses and (d) there is no verified parameter available which integrates with shariah's field applied to medical

perspective. The output of this stage is to articulate the research problem, research questions, and research objectives.

The second stage seeks to provide a solution in tandem with *fiqh* perspective corresponding to obstetric VTE prevention. The principles of shariah were envisioned to solve that case with establishing an integrated parameter between medical and shariah. Eventually, the parameter was verified by shariah scholars and may be deemed as a reference to assist our shariah scholars to conclude a *fatwā*. On top of that, the research context was mapped to be driven as a conceptual framework of this research. The output of this stage was identifying the analytical framework, with proven relevance for a parameter as a connector to establish *fiqh* solution in solving the dilemma.

The third stage involved the data collection and analysis. The data procured through two methods; Documents review and interviews sessions. Throughout the document review, the findings from three aspects were collected; medical, pharmaceutical and shariah fields. All the data were inductively analyzed, deducted comparatively. The interviews session, on the other hand, were conducted in three rounds; First, interview the medical providers. Second, pharmaceutical experts. Third, shariah participants who consisted of academicians and few states *muftiyy*.

The fourth phase was the writing process preceded with data analysis. The data collected were verified with using Cohen's Kappa qualitative analysis. Thus, the fourth phase of this research was ended with a proposal to solve this dilemma from *fiqh* perspective and may be eligible to be perpetuated to review the *fatwā* in 2009 for future research.

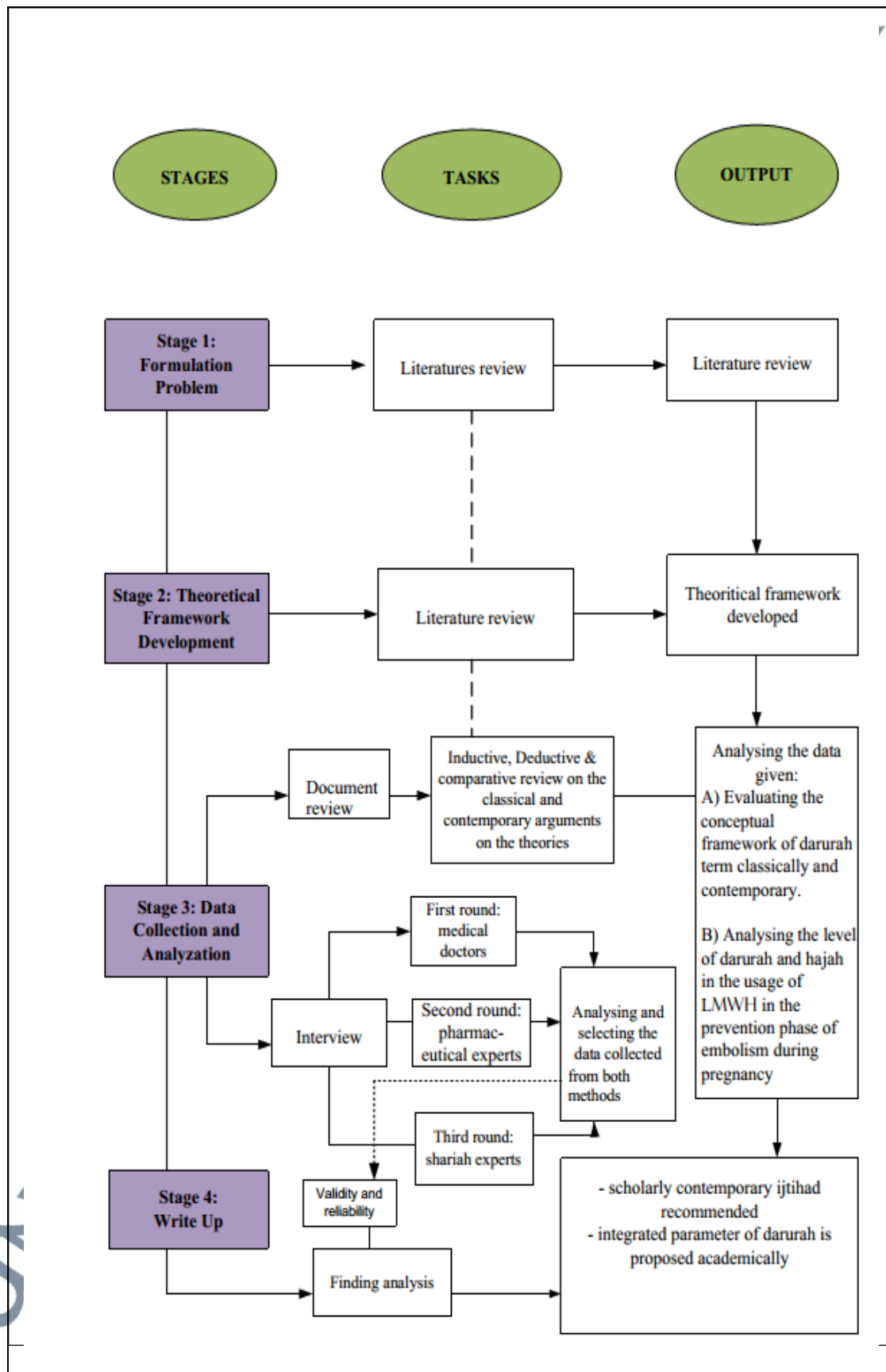


Figure 1.9: Research phases and task of this research

3.4 Sample Selection

As this research focused on the consumption of porcine base anticoagulant medicine such as LMWH during pregnancy and puerperium from *fiqh* perspective, non-probability sampling specifically purposive sampling or deliberate sampling had been adopted.

Purposeful sampling interpreted as “items for the sample are selected deliberately by the researcher; his choice concerning the items remains supreme. In other words, under non-probability sampling the organizers of the inquiry purposely choose the particular units of the universe for constituting a sample on the basis that the small mass that they select out of a huge one will be typical or representative of the whole.” (Kothari, 2004).

Hence, several experts from various fields purposely were embedded as sample to obtain the data. The experts consisted of three fields such as firstly, ten medical doctors from three different departments specifically a cardiologist, a hematologist, a family medicine specialist and seven of them from O&G department. Secondly, pharmaceutical experts and thirdly, shariah experts comprise of *SahibusSamahahMuftis* from two states in Malaysia and thirdly, academicians from various Malaysian public universities.

The unit of analysis is porcine based anticoagulant called Low Molecular Weight Heparin (LMWH) and the criteria of sample selection was based on their specialty such as cardiologist, hematologist and O&G specialists from both setting; government and private health care centres. Meanwhile, shariah experts such as *muftis* and shariah academicians consisted of Public Universities for instance, University of Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Sains Islam Malaysia (USIM) and International Islamic University Malaysia (IIUM).

3.5 Data Collection

Data collection is a process to identify the types of data that will address the research questions Creswell (2012). While Maxwell (2013) enumerated it as how the information gathered will be used. On the other hand, Maxwell explained that data collection is the methods that were mean to answer the research questions but not as a logical transformation of the latter. The selection depends not only on the research questions, but also in the actual research situation and how it worked effectively in the situation given to obtain the data needed”.

Furthermore, the data required for this research had to be integrated with medical information related to porcine base medicine specifically Enoxaparin which is a type of LMWH. From shariah perspective, the status of LMWH was analyzed through Islamic legal rules as prevention and treatment purposes. The data collected through two methods as following;

3.1.1 Document Review

Documents reviewing process on LMWH issues as anticoagulant used in Malaysia for prophylaxis and treatment purposes started with the main objective to formulate the research problem. This document review method is part of researcher’s efforts to collect related data and evidences regarding this research topic from various sources. The sources include from classical or contemporary books, recent journal papers, webpages and conferences’ e-proceeding.

The gathered data were reviewed starting with reading, comparing, finding the relation and identifying the rationality. A significant volume of documents was viewed and can be found in all chapters. The authenticity of references used for this research can be divided into five dominant categorizations of references as following;

First: Interpretation of legal ruling texts (*tafsīr of āyāt aḥkām*) and hadith books which elaborated about *ḍarūrah*, *ḥājah* and *istiḥālah*. While the unlawful sources focused on porcine.

Among of the *tafsīr* Al-Quran entitled *Aḥkām Al-Quran* by Al-Jaṣṣaṣ and *Aḥkām Al-Quran* by Ibn Al-Arabiyy, *Nukat wa al-‘Uyūn Tafsīr Al-Mawardiyy*, *Tafsīr Al-Fakhr Al-Rāzī*, *Tafsīr Al-Qurṭubīyy*, and *Tafsīr al-Kashshāf ‘an Ḥaqā’iq al-Tanzīl* by al-Zamakhshariyy. While referred hadith books such as *Saḥīḥ Al-Bukhārīyy*, *Saḥīḥ Muslim*, *Sunan al-Tirmiziyy*, *Sunan Abū Dawud*, *Sunan Ibnu Majah* and books of *Hadith al-Aḥkām* for instance *Nayl al-Awṭār* by al-Shawkāniyy.

Second: Classic books of *fiqh* and *uṣūl al-fiqh* such as *al-‘Umm* by Imām Al-Shāfi‘iyy (204H), *Ghiyāth al-‘Umam fi Iltiyāth al-Zalam* by Al-Juwayniyy (478H), *Al-Mustaṣfā* by Al-Imām al-Ghazālīyy (505H), *Qawā‘id al-Aḥkām* by ‘Izz al-Dīn ‘Abd al-Salām (660H), *al-Muwāfaqāt fi Uṣūl al-Sharī‘ah* by al-Shāṭibīyy (790H), *Al-Manthūr* by Al-Zarkashiyy (794H), *Al-Ashbāh wa al-Nazā‘ir* by al-Suyūṭīyy (911H) and Ibn Nujaym (970). Of the classical *fiqh* books were referred such as *Badā‘i al-Ṣanā‘i* by al-Kasāniyy (587H), *al-Mughnīyy* by Ibnu Qudāmah (620H), *Majmu‘ al-Fatāwā* by Al-Imām Ibn Taymiyah (728H), *Mughnīyy al-Muhtaḥaj* by al-Sharbīniyy (977H), *Ḥāshiyah al-Dusuqiy* by al-Dusuqīyy (1230H), *Radd al-Mukhtār* by Ibn ‘Ābidīn (1252H).

Third: Contemporary *fiqh* and *uṣūl fiqh* and *qawā‘id al-fiqhiyyah* books for instances, *Majallah al-Aḥkām al-‘Adliyyah* by Alīyy Ḥaydar, *Fiqh al-Awlawiyyāt* by Al-Qaradawīyy, *Nazariyyāt al-Ḍarūrah al-Sharī‘ah* by al-Zuhayliyy, *Fiqh al-Ḍarūrah wa Taṭbīquhā al-Mu‘āṣarah āfāq wa ab‘ad* by Abu Sulaymān Bakūrah, *Nazariyyat al-Ḍarūrah Ḥudūduhā wa Ḍawābiṭuhā* by Jamīl Mubārak, *Al-Ḥājah wa athurahā fī al-Aḥkām* by Aḥmad al-Rashīd, *Al-Ḥājah al-Shar‘iyyah Ḥudūduhā wa Qawā‘iduhā* by Aḥmad Kāfiyy and *Al-Ḥājah al-Shar‘iyyah Ḥaqīqatuhāwa ‘Adillatuhā wa Ḍawābiṭuhā*

by Al-Khādimī and *Al-Mawād al-Muḥarramāt wa al-Najāṣah fī al-Ghizā' wa al-Dawā'* by Kamāl Ḥammād Nazih.

Fourth: Thesis, Dissertation, Journals, Proceeding, academic research papers. Materials were used in this research such as *Al-Ḍarūrah al-Syar'īyyah dan Aplikasinya Dalam Penggunaan Muharramat Masa Kini*, a Ph.D thesis of Mohd Hapiz bin Mahaiyadin, *Necessity (Ḍarūrah) in Islamic Law: A Study With Special Reference to The Harm Reduction Programme in Malaysia*, a Ph.D thesis by Yasmin Hanani bt Mohd Safian, *Penentuan Hukum Makanan Ubah Suai (GMF) berasaskan haiwan*, a Ph.D thesis of Mohd Izhar Ariff bin Mohd Kashim, *Penggunaan Sutra dalam Bidang Perubatan: Analisis dari Perspektif Sains Dan Islam*, a Ph.D thesis of Farhani Zarmani, *Aplikasi Kaedah al-Darurah Dalam Perkhidmatan Kesihatan di Malaysia*, a Ph.D thesis by Rohani Desa, *al-Ḥājah 'inda al-Uṣūliyyīn wa Ātahrūhā fī al-Tashrī'*, a Ph.D Thesis by Ahmad Mumani, *Penentuan Standard Masalah dan Mafsadah dalam Rawatan Materniti di Malaysia*, a Ph.D by Siti Khatijah bt Ismail, *Teori Istihalah Menurut Perspektif Islam dan Sains: Aplikasi terhadap Beberapa Penghasilan Produk Makanan*, a Master's Thesis by Mohammad Aizat, Jamaluddin, *Ḍawābiḥ al-Ḥājah allatī Tunazzalu Manzilah al-Ḍarūrah wa Taḥbīqātuhā 'alā al-Ijtihād al-Mu'āṣarah* by Al-Zayr, *Mafhūm Muṣṭalah al-Ḍarūrah Bayn al-Shar' wa al-Ṭibb* by 'Abd al-Raḥmān 'Uthmān al-Jal'ūd, *Teori Istihalah Menurut Perspektif Islam Dan Sains: Aplikasi Terhadap Beberapa Penghasilan Produk Makanan* oleh Mohammad Aizat Jamaludin dan Che Wan Jasimah Wan Mohamed Radzi.

Fifth: Website, blog either electronic or printed media. Those sources used for searching related information or data regarding the practices of LMWH upon pregnancy and puerperium in Malaysia associated with the fatwa produced by *Majma' Al-Fiqh Al-Islami Al-Duwālī*, *Majma' Al-Fiqh Al-Rābiḥah Al-Islāmiy*, *Dār Al-Iftā' Al-Miṣriyyah*,

Singapore Fatwa by MUIS, Personal fatwa by prominent Muslim scholar such as Wahbah al-Zuhayli and decision imposed by MCMKI pertaining the usage of LMWH such as Enoxaparin in Malaysia which found in *Kompilasi Muzakarah Jawatankuasa Majlis Fatwa Kebangsaan* published 2015 by JAKIM.

The researcher also obtained opinions from several shariah experts to verify the parameter of integrated medical-shariah perspective in order to assist Malaysian Shariah scholars to determine the *fatwā* over LMWH as thromboprophylaxis during pregnancy and puerperium in Malaysia. Their opinions concomitantly improved the parameter built with explanation and suggestions from the participants.

The parameter was presented in shariah experts' workshop at World Fatwa Management and Research Institute (INFAD), Universiti Sains Islam Malaysia, Nilai Negeri Sembilan on 28th of May 2019. Two out of nine shariah experts attended that workshop while seven experts were not able to attend the course for different tasks. Two experts agreed the parameter was able to stand out as academic contribution in assisting Malaysian Muslim scholars to impose fatwa regarding LMWH issue.

The workshop resulted an inadequate information stemming from a less stimulating of participant's attendance; merely two shariah experts involved. Instead of discussing about the manufacture process involved in complete biotransformation or partial biotransformation, both two participants intrigued much to argue the level of *ḍarūrah* and *ḥājah* of LMWH supposedly judged. This is because, the shariah experts understood that MCMKI' stance recognized as nonpartisan of *istiḥālah* method in any means with an exception to few natural events only.

3.1.2 Interview

In order to procure adequate data, the researcher employed an interview method for this research. This is because to know in detailed the clinical practice in Malaysian hospitals and to assure the reliability of the data from documents sources, and not merely depended on statistic or written documents. Interview data collected from the practitioners sharing their knowledge and experiences dealing with women who are at-risk of VTE and further complicate their pregnancy and puerperium. As far as VTE prevention treatment concerned in this study, the researcher found from literatures evidences and supported by interviews it was found that the effectiveness of the VTE risk assessment program can be credited to the reduction of maternal mortality incidences. Experts from three fields namely medical, pharmaceutical and shariah were identified and underwent a thorough interview session with every each of them personally.

According to Demarrais (2004), research interview is a process whereby a researcher and participants engage in a conversation focused on questions related to the research study". The interview conducted for this research was a semi structured interview which is less-structured alternative. This format allows the researcher to respond upon situations at hand, to the respondents' emerging worldview (Merriam & Tisdell, 2016). The interview questions were validated by rechecking the research question and research objective, verified by experts from each field; medical, pharmaceutical and shariah.

The selection of the experts from those fields considered pertinent to the objective of this research. Interviewees categorized under three fields for instance, ten medical consultants and experts, three pharmaceutical experts and eight shariah experts.

In the initial recruitment for panel interviewee, there were few obstetricians whom refused to be interviewed due to their personal reasons and conflict of interest.

They decided to not be part of this research owing to their personal preferences which may consider as against the national CPG recommendation. Amongst of the reasons given to the researcher was they personally feels that they should use halal anticoagulant like Fondaparinux as the first option of anticoagulant owing to strong rooted Malaysian rejection of porcine base medicine. While other doctors felt uncomfortable to involve in this research because of their concern that this research might go against the MCMKI's decision in 2009. However, in general, they agreed that LMWH were approved as the most effective medicine by far to date. At the same time, a shariah expert who was in the meeting of MCMKI in 2009 also refused to involve in this research due to his personal conflict of interest.

Consequently, the researcher utilized all the data gathered from three fields to analyze the contemporary suggested *fatwā* from *fiqh* perspective as ultimate objective of this research.

3.6 Data Analysis

This section consisted of two types of data analysis. ;

3.6.1 Inductive method

Inductive method in Islamic methodology research called *istiqla'* (Muhaimin et al., 2017) which the related documents such as manual training, books, journal papers, academic research paper and website information were collected and gathered. Throughout reading and reviewing the data, the researcher concluded and derived a

theory. According to Nosrati (2019) inductive method aimed to generate a new theory which is emerging from the data gathered. A theory or conclusion is developed out of the data to clarify the phenomenon, but the validity needs to be verified.

According to this research, the researcher develops a theory that LMWH for thromboprophylaxis during pregnancy and puerperium are permitted on the base of principle of *ḍarūrah* owing to VTE known as a catastrophic event. In the other hand, the researcher figured out that in cases with mother having moderate risk towards VTE can be regarded as *al-ḥājah tunazzal manzilah al-ḍarūrah min bāb al-awlaw* owing to engage with *maṣlahah* of lives; the mothers and the unborn babies.

3.6.2 Deductive method

Deductive method or in Arabic term called *istinbāt* (Muhaimin et al., 2017) were applied when the process of analyzing the data from general evidences and aimed to test the existing theory. Based on existing theories proposed by early jurists on the principles of *ḍarūrah*, *ḥājah* and *istiḥālah*, the researcher put forward an effort to apply those three principles towards obstetric VTE event and its treatment. In the context of medical cases, the weighing process for using unlawful sources can be argued with ‘*ḥājah*’ principle, rather than merely the *ḍarūrah* principle.

3.6.3 Comparative Method

Comparative method used in this research especially when comparing definitions of *ḍarūrah* in *fiqh* and connotations in *uṣūl fiqh*. It is found that legal theories (*uṣūliyy*) that defined *ḍarūrah* as *ḍarū riyyāt* is the ultimate *maṣlahah* in the hierarchy other than *ḥājiyyāt* and *taḥsiniyyāt*. While the jurists (*fuqahā*) denoted *ḍarūrah* as a chronic situation which allows Muslims to consume unlawful sources in order to

survive. From both views, the jurists directly referred the term of *darūrah* to attain *maṣlaḥah* in *maqāṣid al-sharī'ah*, as of the objective of the shariah which is bestowed by the Law giver.

The method also applied to compare the arguments on *istiḥālah* and *ḥājah* in this research. This research also embedded a comparative method between participants according to respective background and interdisciplinary perspective from both medical and shariah perspectives. In turn, the researcher treated each research questions respectively in the discussion chapter. While the researcher used thematic analysis in analyzing the data from codification created.

3.7 Conclusion

In conclusion, this qualitative methodology using inductive, deductive and comparing methods over document review and interview data were deemed as relevant methods to apply in this explanatory method.