FEASIBILITY OF AN IVF CENTRE IN A LEADING OBSTETRICS & GYNAECOLOGY HOSPITAL

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By:
Dr. Arushi Vij
Roll No. 1426

INTRODUCTION

- The **feasibility study** is an evaluation and analysis of the potential of a proposed project. It is based on extensive investigation and research to support the process of decision making.

- The feasibility study outlines and analyzes several alternatives or methods of achieving business success. The feasibility study helps to narrow the scope of the project to identify the best business scenario.

- IVF is the most effective form of assisted reproductive technology.

- 20-30% of infertility cases are explained by physiological causes in men, 20-35% by physiological causes in women, and 25-40% of cases are because of a problem in both partners. In 10-20% no cause is found.
- Approximately 8-10% of couples within the reproductive age group present for medical assessment, generally following two years of failed efforts to reproduce. (Source : ART fact sheet (July 2014))

- Infertility is also associated with lifestyle factors such as smoking, body-weight and stress. Increasing age in the female partner is one of the most common explanations today.

- **Success rates** for IVF depend on a number of factors, which includes :
  - reason for infertility,
  - age
  - facility where the couple is undergoing the procedure

- The **price** of IVF varies and it depends on the following factors:
  - where one lives,
  - the amount of medications required to be taken,
  - the number of IVF cycles a couple needs to undergo,
  - the amount of money the insurance company will pay toward the procedure.(A thorough investigation of the insurance company's coverage of IVF will be needed and it is essential to take a written assurance statement of the benefits being provided)

RESEARCH QUESTION

- What are the parameters that need to be fulfilled legally and in an infrastructural way to establish an IVF Centre at Zulekha Hospital?

- What is the profitable revenue and benefit to the organization which can be generated from such a facility?

OBJECTIVES OF THE STUDY

- To chart out the legal and infrastructural obligations and define the viability according to the feasible atmosphere involved in establishing such a centre in a socio-cultural environment of UAE.

- To define the technical requirement in terms of equipment and manpower resources required to implement this project

- To describe what is unique about the centre compared to the competition.

- To determine the positive economic benefits to the organization that the proposed new department will provide.

METHODOLOGY

- **Type of Study -** Descriptive Study.
- **Location of study** – Zulekha Hospital, Sharjah (U.A.E)
- **Site of Study** – Zulekha Hospital, Sharjah (U.A.E)
- **Sample Size** – Total cases that have been referred for an ART over the past few months and that are presently being referred for an ART.
- **Data collection tools-**

Primary Data: A Checklist for each of the parameters prepared as per the Government and Ministry requirements of UAE.

Secondary data: The medical records (Medical Record Department) present in reference to the relevant cases

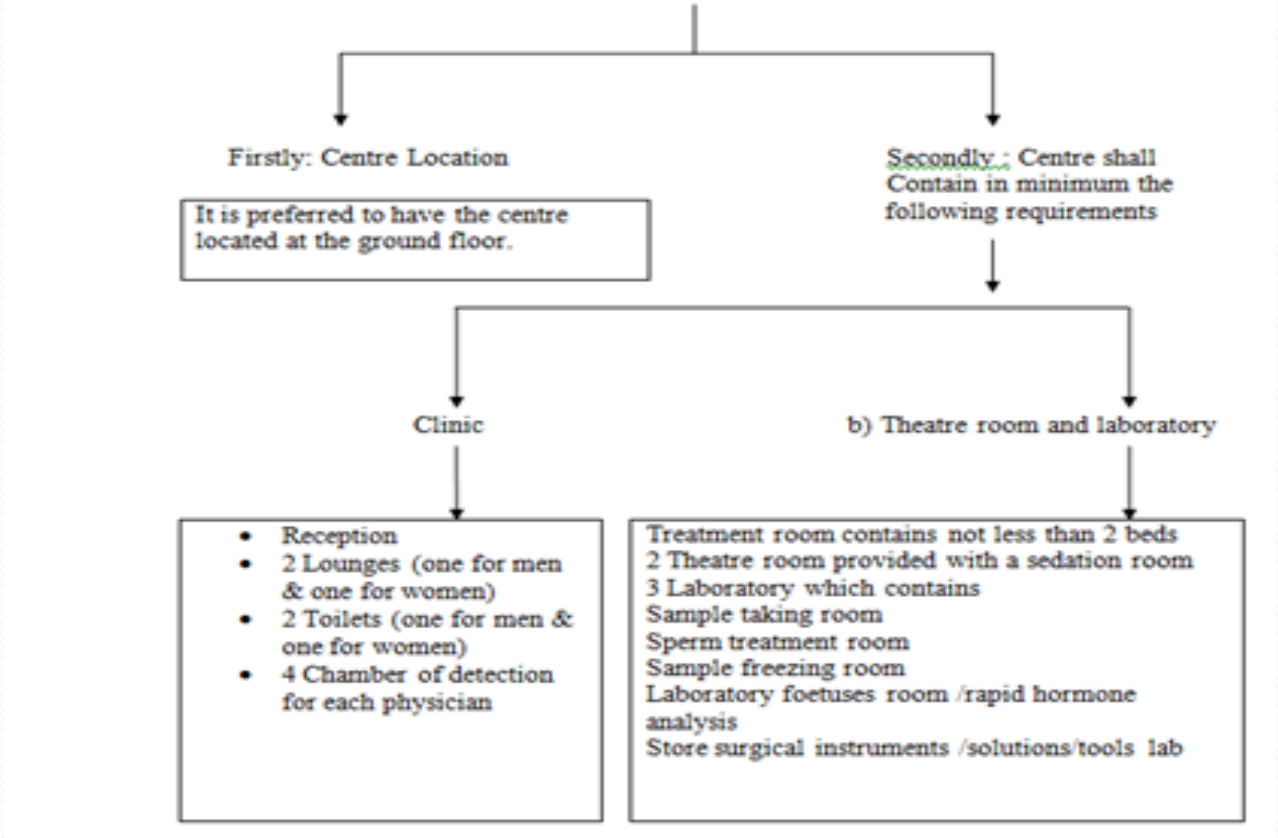
- **Timeline -**The project work was done over a period of 2 months.

PHASES OF THE STUDY

- **Phase 1** : Identifying the legal requirement
- **Phase 2** : Assessment of technical requirements in terms of equipment and manpower.
- **Phase 3** : Includes the location feasibility
- **Phase 4** : Market Research - scanning of the current scenario of IVF treatment available in Sharjah.
- **Phase 5** : Calculating the economic benefits / Revenue generation.

PHASE 1 – LEGAL REQUIREMENT

IVF Units (Fertilisation Centres) in the UAE require licensing based on whether they are able to match up to the needed standards. All IVF Units are to meet the legal requirements stated in the Cabinet Decision document



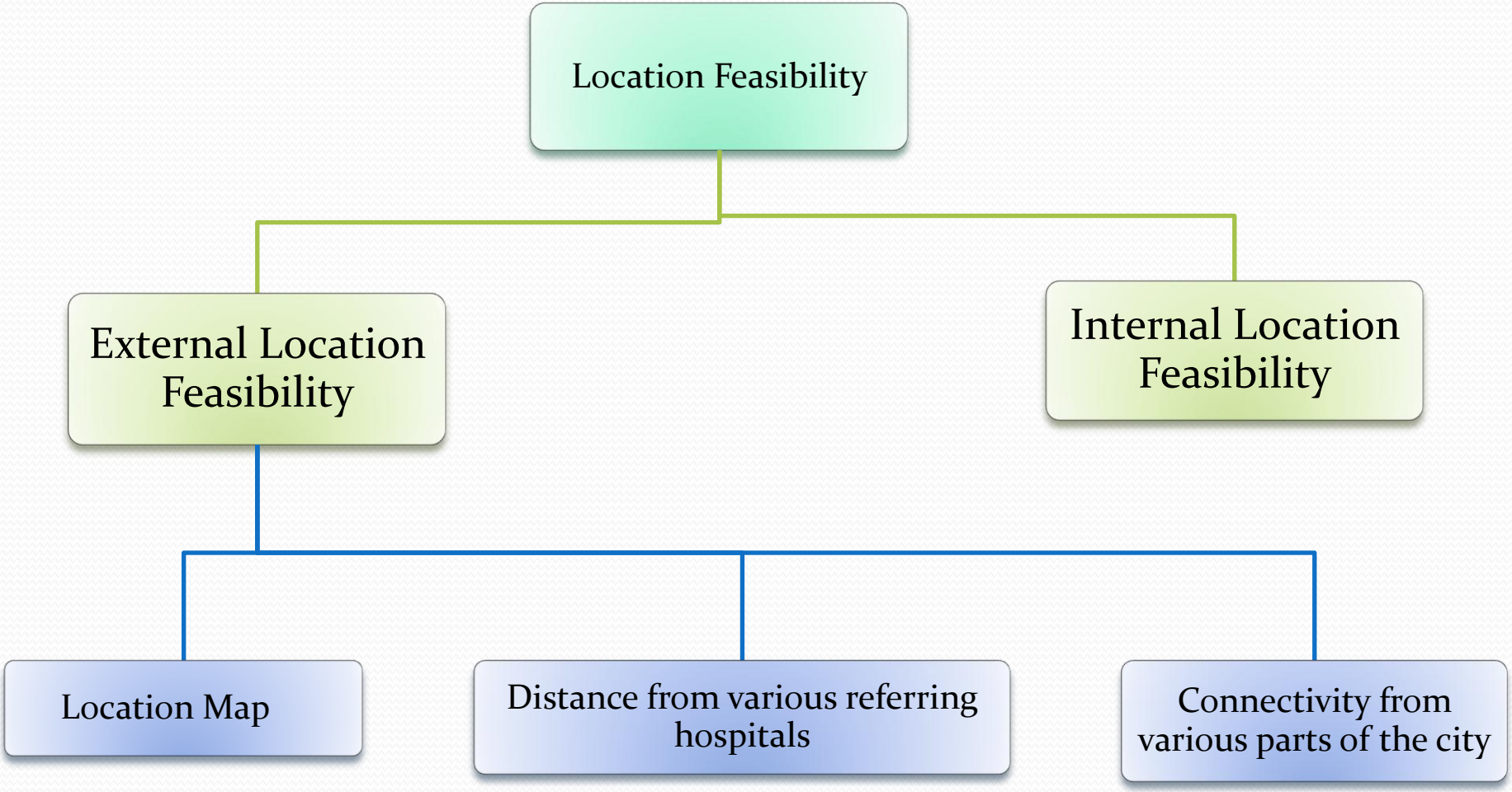
PHASE 2 – TECHNICAL REQUIREMENT

- A venture is considered technically and operationally feasible if it has the necessary expertise, Infrastructure to develop, install, operate and maintain the proposed system.

- Based on the requirements a checklist was prepared for both the manpower as well as the equipments needed considering the criteria as per the Ministry of Health, UAE.

- Manpower Checklist.docx
- Equipment Checklist .xlsx

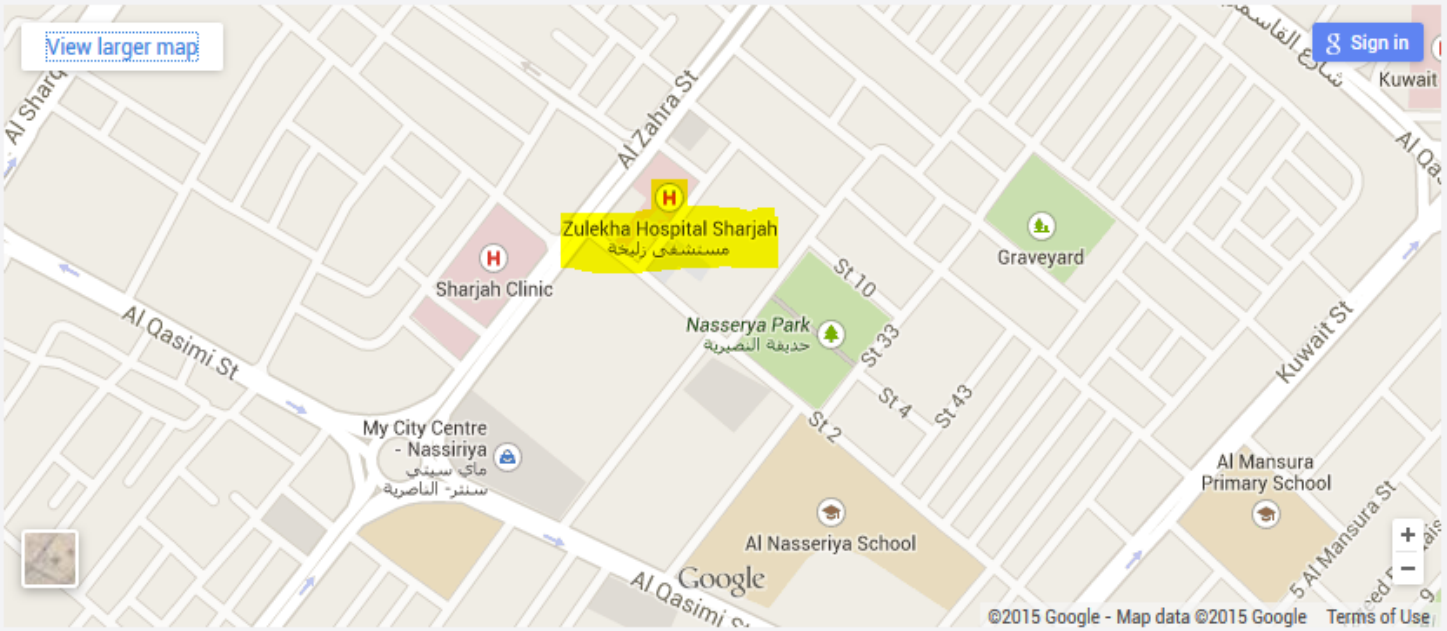
PHASE 3: LOCATION FEASIBILITY



External Location Feasibility

a.

Location Map



GPS CO-ORDINATES FOR NAVIGATION APPLICATIONS

GPS	LATITUDE	N 25 22.101
	LONGITUDE	E 55 24.272

b Connectivity And Distances From Various Part Of City

Place	Distance (kms)	Time (mins)
1. Distance from Sharjah International Airport	14.3 km	15mins
2. Distance from Dubai International Airport	27 km	25 mins
3. Distance from Bus Stand Dubai	22 km	26 mins
4. Distance from City Centre Sharjah	_	16 mins
5. Nearest Bus Station: Nasserya.	6km	15 mins

c. Distances From Various Referring Hospital And Transportation Availability

Hospital Name	Distance (km)	Time (mins)
Ajman Speciality Hospital	12 km	14 mins
Kuwait Hospital	2.3 km	5 mins
Al Zahra Hospital	1.7 km	4 mins
Canadian Specialist Hospital	15.6 km	30 mins
Eve IVF Centre	7 km	12 mins
Sharjah Corniche Hospital	7.9 km	14 mins

Internal Location Feasibility

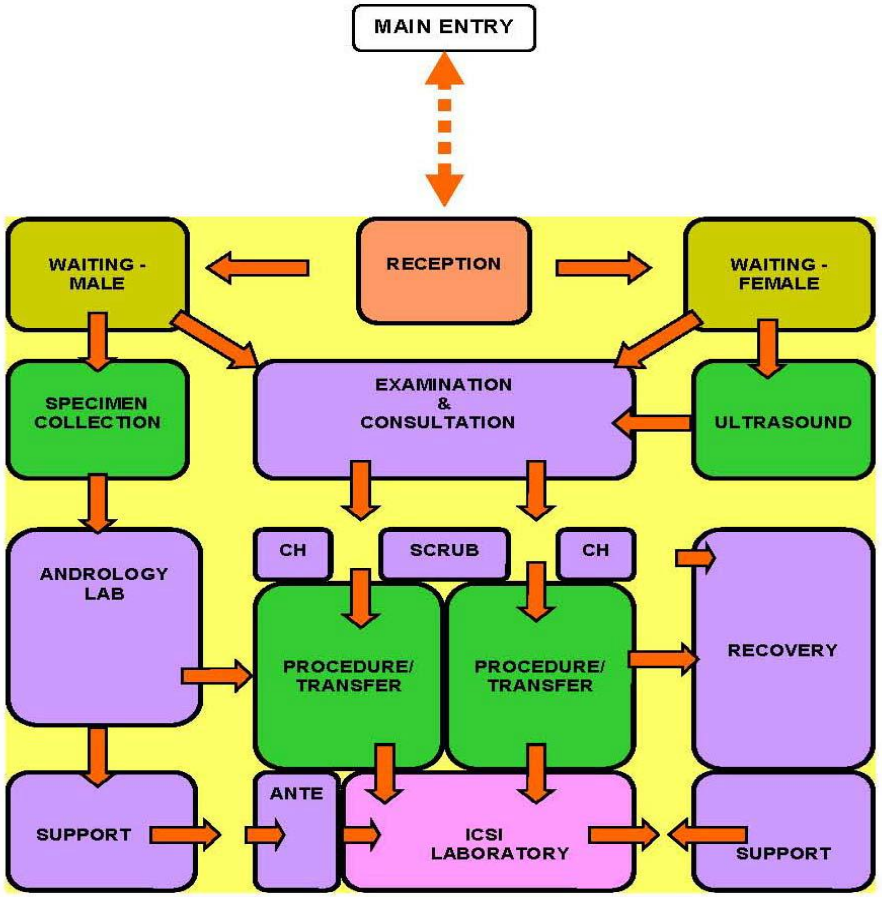
- The IVF laboratory should provide a safe, non toxic, stable, and a pathogen free environment.

- Laboratory conditions are of paramount importance in maintaining consistent success rates.

- Ideally the laboratory should be:
  - away from polluted areas such as industries
  - areas where there is high volume of traffic.
  - Locations adjacent to parking lots, gasoline service stations and construction areas should also be avoided to limit the adverse impacts of pollutants to cell tissue culture
  - The room requires a defined unidirectional workflow for the instruments from clean to sterile and then to sterile store

The Process Flow

The Functional Relationship Diagram:



PHASE 4: MARKET RESEARCH

- Description of the Industry
- Current market analysis
- Competitors Analysis
  - Staff Qualifications
  - Clinical Experience
  - Costs
  - Success Rate
  - Patient safety
  - Confidentiality & legal matters
  - Location
  - Services Provided
  - Target Clientele
  - Charges
  - Success Rate
  - Average Patient Load
  - Distance from Zulekha

Questionnaire.xlsx
Competitors.xlsx

Description Of The Industry

- According to the authority's Policy and Strategy Department there has been a definite need for more fertility services since large families are encouraged in the Emirati culture while white-collar expatriate workers also tend to bear their children while working in the UAE.

- Recommendations pointed out to the need for more centres to meet the growing needs in the coming few years.

- Perceptions on infertility treatments are changing rapidly among men in the country attributing the change to easy access to information and education.

- Despite cultural and traditional reservations, talks and tests on infertility options with men are 90 per cent successful now as compared to 10 years ago

PHASE 5 : THE ECONOMIC BENEFITS / REVENUE GENERATION

The following data is based on approximate values which were obtained from the market research.

Revenue		Cost		Per year
per patient (including the consultation)	45,850	Equipment	1440225	120019
		Manpower	1500000	1500000
No. of expected patient per year	60	Facility Charges	2500	21000
	2751000	Infrastructure /Building rent	1000000	10,00,000
		Marketing & other activity	75000	75000
		Cost of consumables	2326.2	27914.4
			4020051.2	2743933
	Profit Generated	**7,067**		
	Profit generated Per Patient	**118**		Note : all figures are in AED

Assumptions:

- Approximate profits without taxes
- No. of patients may vary.
- Assuming that if we provide services to 60 patients (which is an average of number of patients of past four months) annually we will be generating a profit as can be seen

Gynecology OPD consumables.xlsx

FINDINGS & RESULTS

Percentage of Diagnosed Male & Female Infertile cases of total gynaecology cases, Zulekha Hospital (December 31 2012- December 31 2014)

The above figure presents the percentage of the male and female infertile cases of the total cases in the gynecology OPD .

Male infertile cases are 0.31% while female infertile cases are depicted as 1.45% . Total gynecology cases were 72433 of which 1053 – diagnosed infertile females and 221 - diagnosed infertile males

Source : MRD, Zulekha Hospital

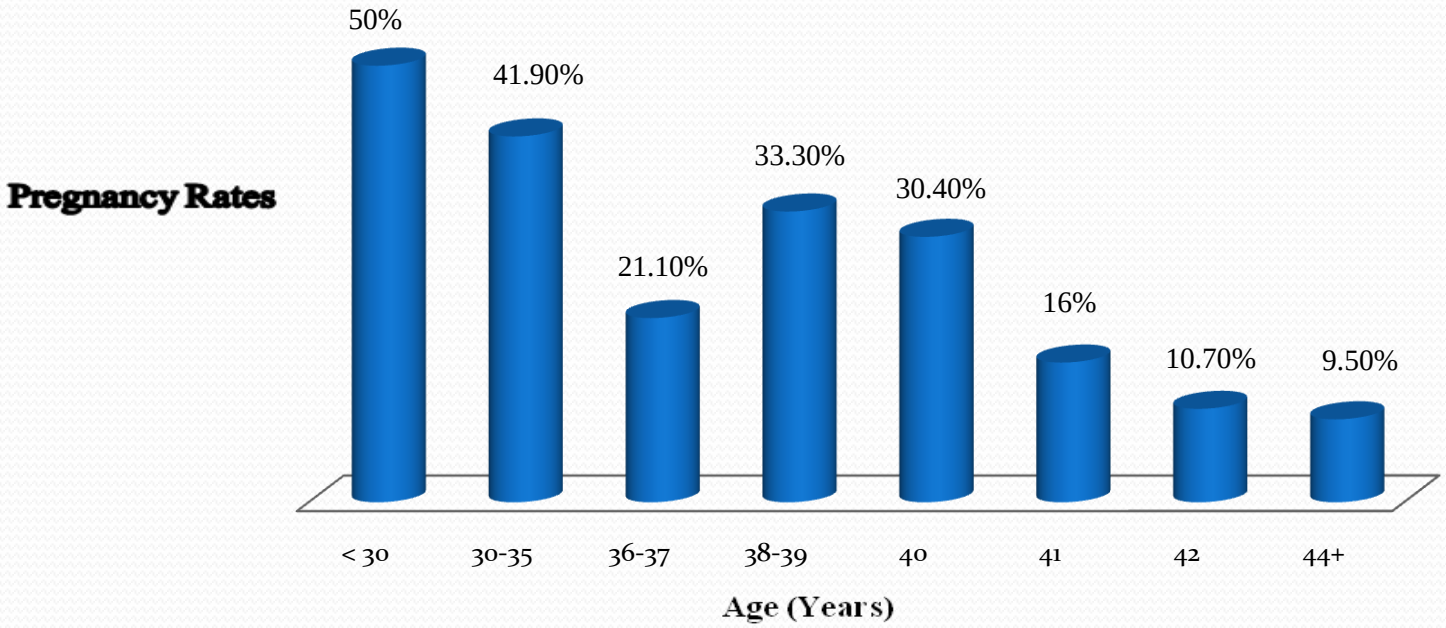
No. Of patients in past four months, diagnosed female & male infertile cases

MONTH	Total No. Of patients	Diagnosed Female Infertile cases	Diagnosed Male Infertile Cases
January	4071	69	8
February	3991	25	8
March	4561	54	7
April	3800	49	21

The above table presents the monthly total no. of patients availing services in the gynecology OPD, along with the number of female infertile cases.

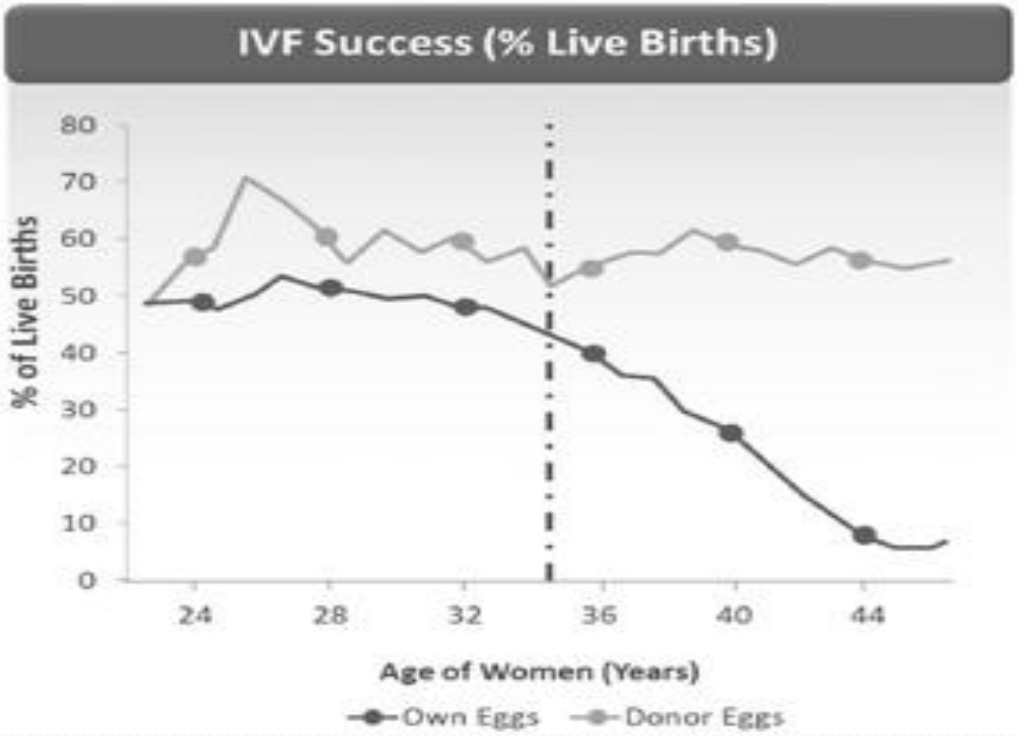
Source : MRD, Zulekha Hospital

Age of patient & Pregnancy rates , UAE



The above Figure 4 represents the pregnancy rates of the women in the different age groups.
It is seen that below 30 years of age the pregnancy rate is 50 %. As the age of the woman increases, the pregnancy rate decreases.

Source: *David Robertson, FRCOG, Consultant in Reproductive Medicine, Group Medical Director, Bourn Hall International, Dubai, UAE*



As can be seen in the Figure IVF pregnancy success rates for women over age 35 remain relatively flat, regardless of the woman's age

Source : 2010 CDC report

ANALYSIS

SWOT analysis

STRENGTHS	WEAKNESS
1. Already part of an established set up 2. Latest machines and excellent hospital facilities. 3. Strong commitment to the community mission keeping in mind the present day scenario of the need for better fertility facilities in Sharjah. 4. Excellent healthcare quality services 5. High flow of patients in the gynaecology department 6. Hospital holds various camps & seminars for awareness	1. Short of critical staff at the initial stage of the set up. 2. Initially the cost of running the facility will be higher. 3. Inadequate resources initially 4. Initial apprehensions of the patients as it will be a new entrant in this field.

OPPORTUNITIES

1. Provide specialized lab services to other physicians.
2. Location : it is easily accessible by all means of transport.
3. The IVF centre will be at close proximity to the various referring hospitals.
4. Collaborating with other co-partner healthcare informatics to get the latest technologies and treatments so as to improve the quality and efficiency of our services.

THREATS

1. Already established centres – competitors
2. Local economy, health and employment levels of the patients availing services.
3. Competitors have a well established target market already.
4. Established competitors will be providing better schemes
5. Increasing demands by patients & physicians for expensive medical technology which is not cost effective.
6. Increasing pressure to reduce healthcare costs

CONCLUSION

- Phase 1 : Legal Requirement
- Phase 2 : Technical Requirement

  A manpower of approximately 20-22 staff members is needed for the IVF centre. The selection process and the recruitment is based on their qualifications and a minimum specified work experience.

  The panel was decided and the interviews for the staff for the recruitment were begun as per the Ministry Of Health, Sharjah. The prepared checklist played a vital role as it was guiding the panel at the time of recruitment.
- Phase 3 : Location Feasibility
- Phase 4 : Market Research

  The mindset of the patients and the functioning and approach of the competitors all came to light when this step was considered.
- Phase 5: Economic Benefits / Revenue generation

  There is a huge expenditure involved in establishing the centre and only when we get a considerable number of patients will we be able to reach a point of the break even analysis.

  Initially the per month cases will not be very high but gradually as the cases will increase the profit margins per patient will also increase.

THANK YOU