



# NATIONAL HOSPITAL OF OBSTETRIC AND GYNECOLOGY

## **UP-TO-22-WEEK GESTATIONAL OUTCOMES AFTER EMBRYO REDUCTION AT NATIONAL HOSPITAL OF OBSTETRICS AND GYNECOLOGY**

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# BACKGROUND

## In Vitro Fertilization



# OBJECTIVES

To comment on up-to-22-week gestational outcomes after embryo reduction in National Hospital of Obstetrics and Gynecology from November 2015 to July 2016.

# **SUBJECTS AND METHODS**

# SUBJECTS

## **Selection criteria:**

- Nature multiple pregenancy or multiple pregnancy after assisted reproductive technology.
- Before 8 weeks of gestation.
- Were performed transvaginal embryo reduction at NHOG from November 2015 to July 2016
- Adequate collection of women's information.

# SUBJECTS

## **Exception criteria:**

- Performed embryo reduction at other medical facilities.
- Embryo reduction after 56 days of gestation.
- Was not performed embryo reduction transvaginally
- Inadequate collection of women's information.

# METHODS

- **Methods:** Prospective study

$$\frac{p \cdot (1 - p)}{\Delta^2}$$

- **Sample number:**  $n = Z_{1-\alpha/2}^2 \frac{p \cdot (1 - p)}{\Delta^2}$ 
  - $Z_{1-\alpha/2} = 1,96$
  - $p$ : proportion of pregnancy ending before 24 weeks of gestation = 0,07 (Vuong Thi Ngoc Lan study (2002))
  - $\Delta = 0,05$  then  $n = 100$

# STUDY MAP



First contact  
to multiple  
pregnancy  
women



Embryo  
reduction  
and follow-  
up



Up-to-22-  
week  
gestational  
outcomes



# TRANSVAGINAL EMBRYO SUCKING METHOD ASSISTED BY TRANSVAGINAL ULTRASOUND



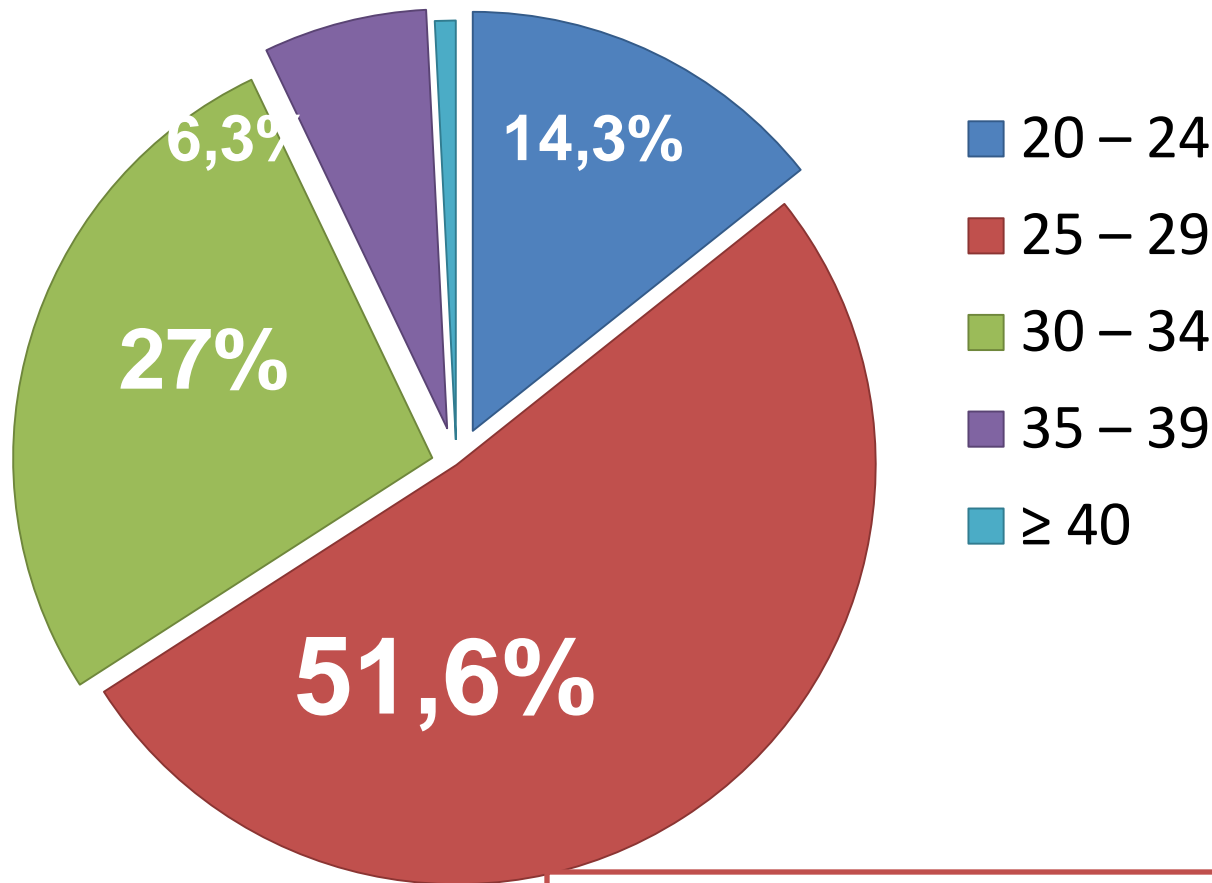
# INFORMATION COLLECTION

- Method: direct interview + embryo reduction record + phone interview
- Instrument: study medical record

# RESULTS AND DISCUSSION

# RESULTS AND DISCUSSION

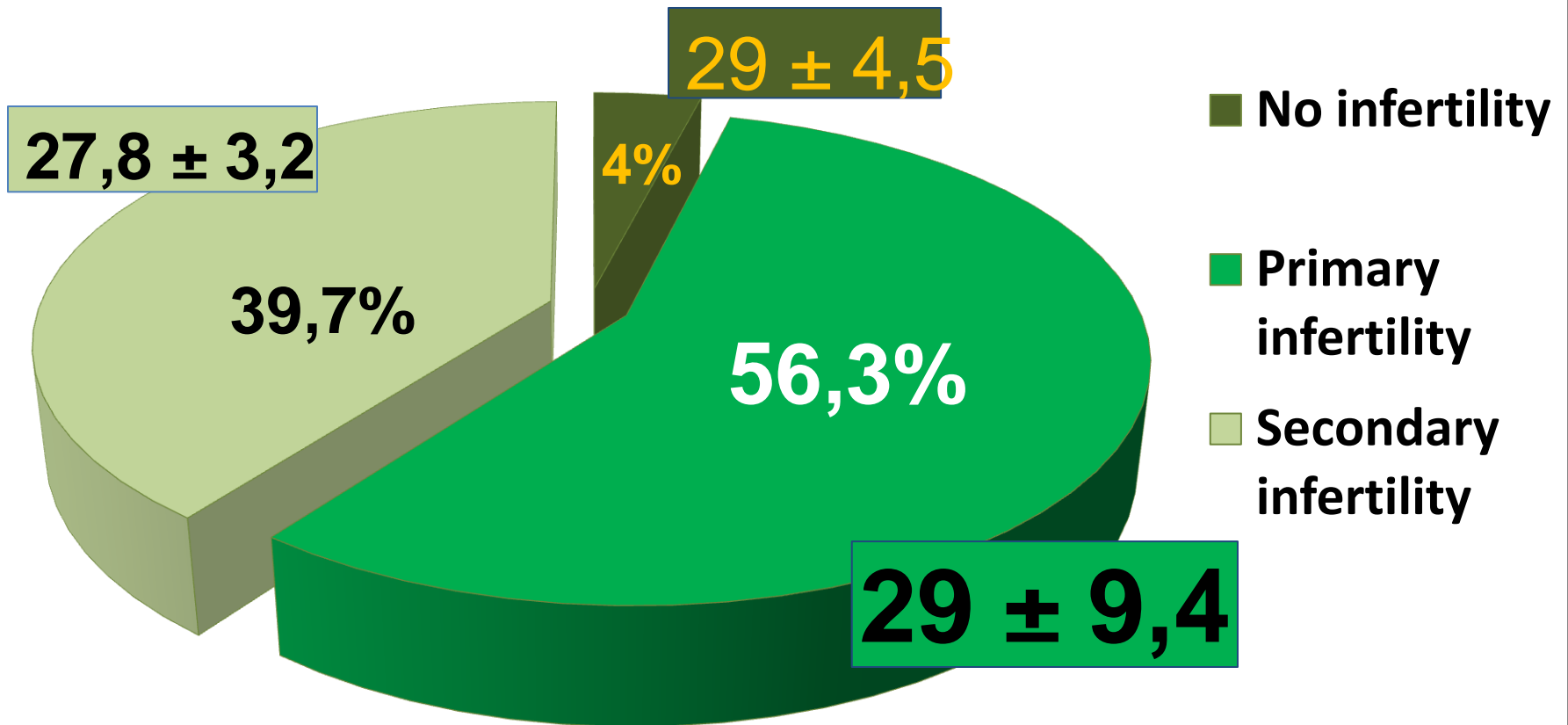
## 3.1. CATEGORY OF AGE



**CHART 3.1. CATEGORY OF AGE**

# RESULTS AND DISCUSSION

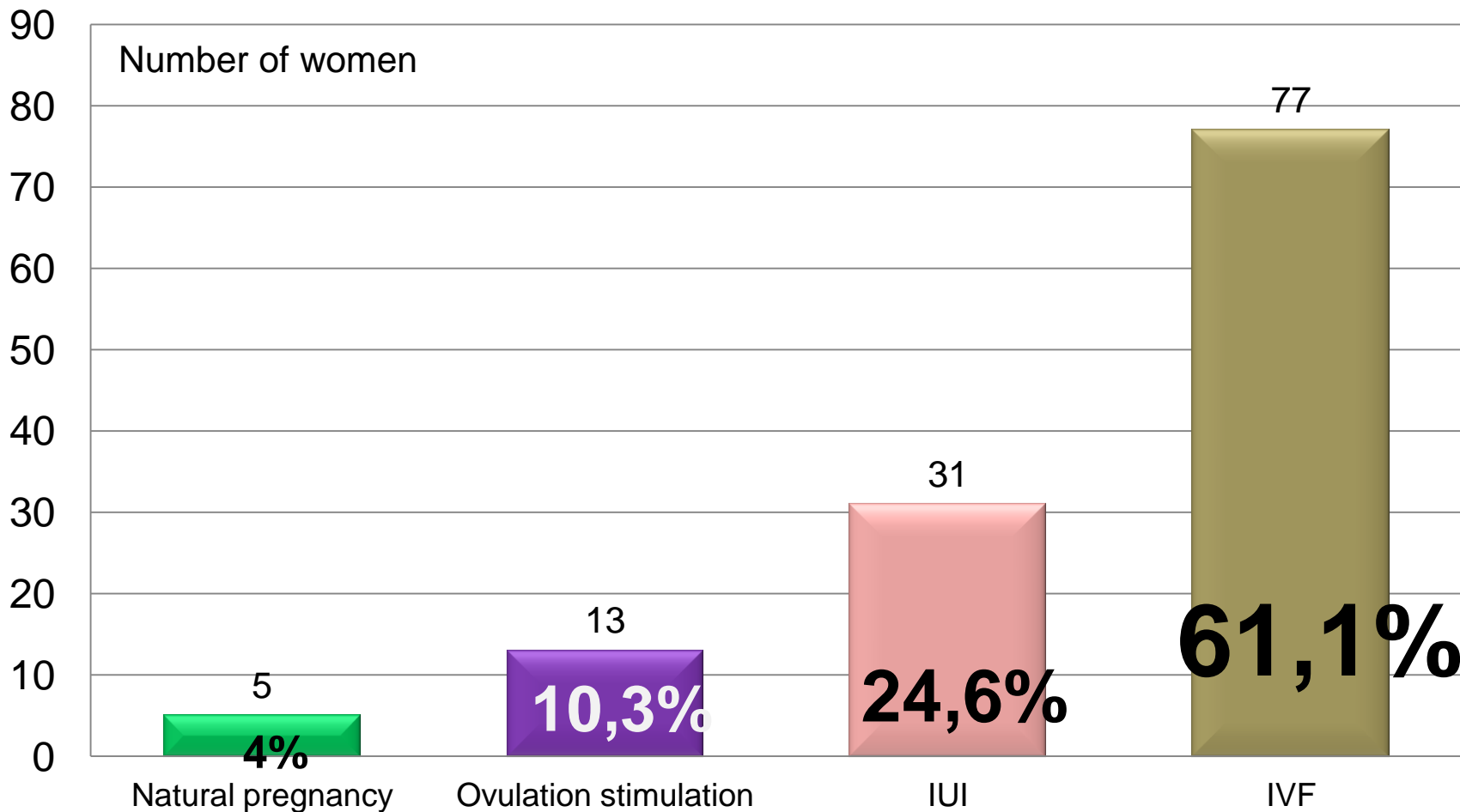
## 3.2. CATEGORY OF INFERTILITY



**CHART 3.2. CATEGORY OF INFERTILITY**

# RESULTS AND DISCUSSION

## 3.3. CATEGORY OF PREGNANCY

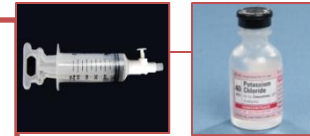


**CHART 3.3. CATEGORY OF PREGNANCY**

# RESULTS AND DISCUSSION

## 3.4. TIME OF EMBRYO REDUCT

*Dao Lan Huong (2009): 43 – 49N:*  
75,8%

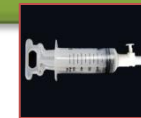


43 - 49N



57,9%

50 - 56N



42,1%

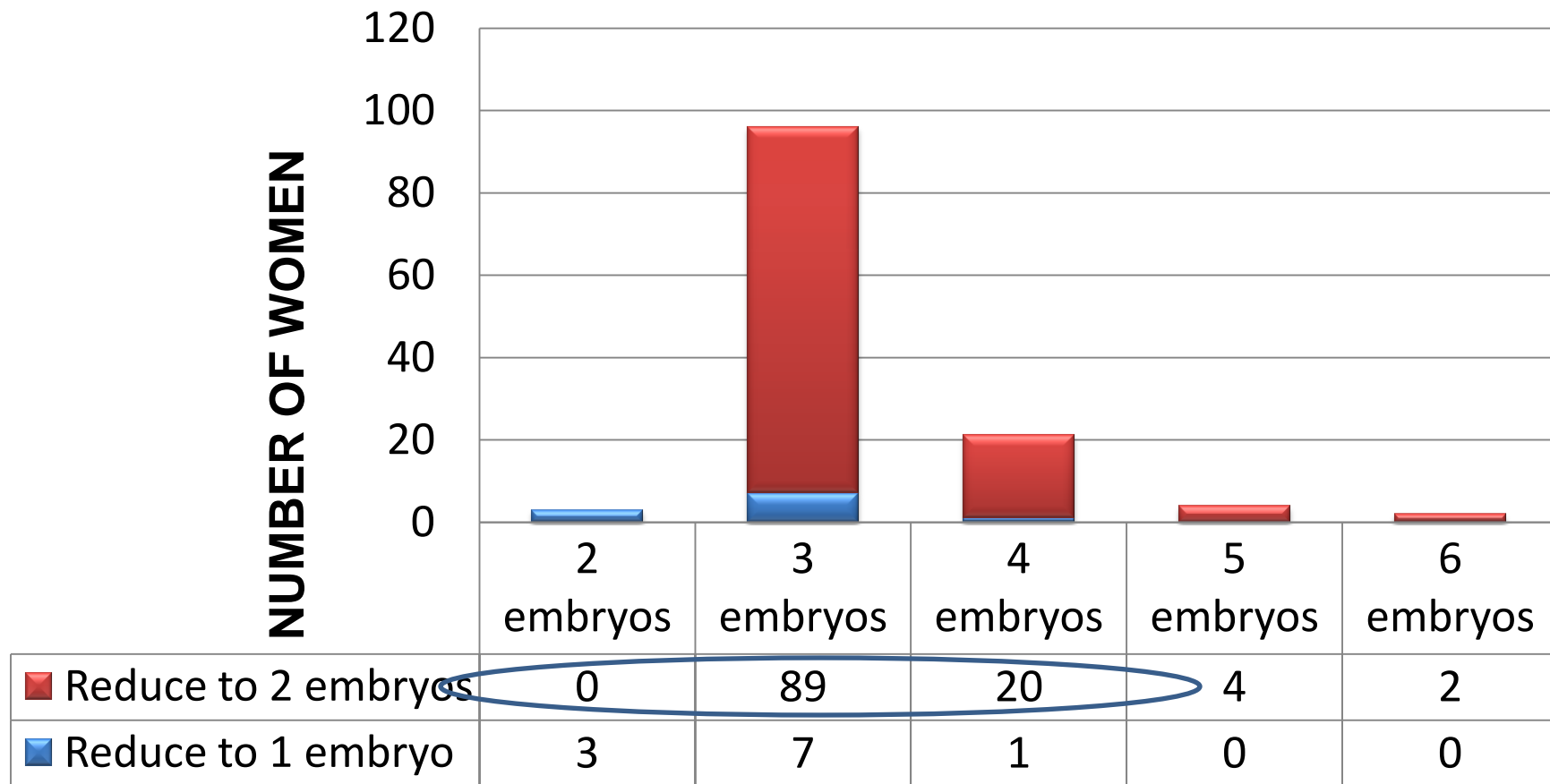
*Pankaj Talwar (2010): 50 – 56N:* 92,3  
%

**CHART 3.4. TIME OF EMBRYO REDUCTION**



# RESULTS AND DISCUSSION

## 3.5. NUMBER OF EMBRYOS BEFORE AND AFTER REDUCTION

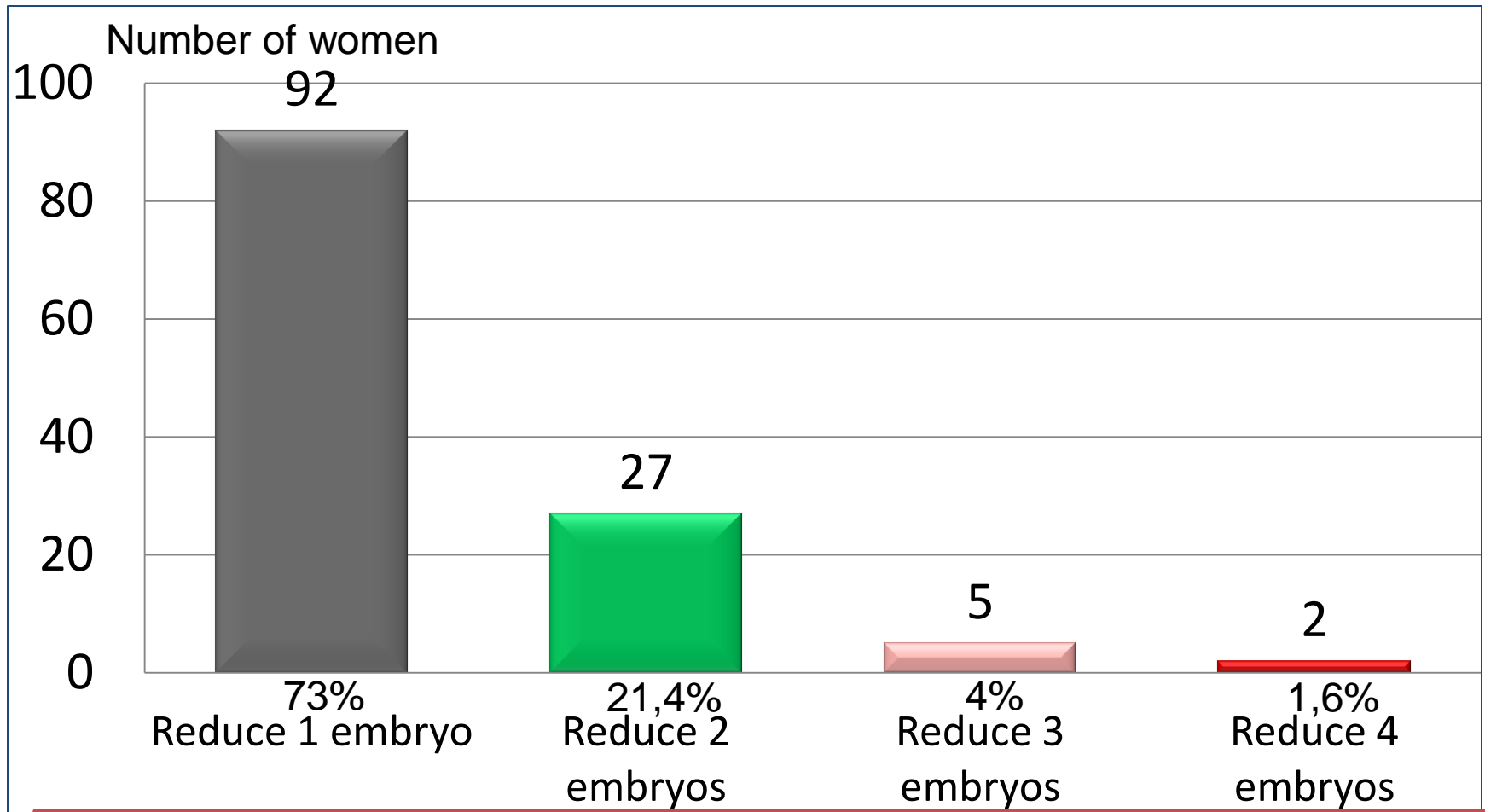


**CHART 3.5. NUMBER OF EMBRYOS BEFORE AND AFTER REDUCTION**



# RESULTS AND DISCUSSION

## 3.6. NUMBER OF REDUCED EMBRYOS



**CHART 3.6. NUMBER OF REDUCED EMBRYOS**

# RESULTS AND DISCUSSION

## 3.7. SYMPTOMS AFTER EMBRYO REDUCTION

Symptoms after embryo reduction	<i>Number of reduced embryos</i>				<i>SUM</i>	<i>%</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>		
<b>Normal</b>	74	16	3	2	96	76,2
<b>Vagnial bleeding</b>	13	5	1	0	18	14,2
<b>Abdominal pain</b>	2	2	0	0	4	3,2
<b>Vaginal bleeding + abdominal pain</b>	2	2	0	0	4	3,2
<b>Nausea</b>	0	0	1	0	1	0,8
<b>Dizzy</b>	1	2	0	0	3	2,4
<b>Sum</b>	92	27	5	2	126	100
<b>% of abnormal symptoms associated with number of reduced embryos</b>	19,6	40,7	40	0	p > 0,05	

**TABLE 3.1. SYMPTOMS AFTER EMBRYO REDUCTION**

# RESULTS AND DISCUSSION

## 3.8. SYMPTOMS 3 DAYS AFTER EMBRYO REDUCTION

Symptoms 3 days after embryo reduction	<i>Number of reduced embryos</i>				<i>SUM</i>	<i>%</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>		
<b>Normal</b>	78	19	4	2	103	81,7
<b>Vagnial bleeding</b>	10	3	1	0	14	11,1
<b>Abdominal pain</b>	2	4	0	0	6	4,8
<b>Vaginal bleeding + abdominal pain</b>	2	1	0	0	3	2,4
<b>SUM</b>	92	27	5	2	126	100
<b>% of abnormal symptoms associated with number of reduced embryos.</b>	15,2	29,6	25	0	$p > 0,05$	

**TABLE 3.2. SYMPTOMS 3 DAYS AFTER EMBRYO REDUCTION**

# RESULTS AND DISCUSSION

## 3.9. SYMPTOMS 1 WEEK AFTER EMBRYO REDUCTION

Symptoms 1 week after embryo reduction	<i>Number of reduced embryos</i>				<i>SUM</i>	<i>%</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>		
<b>Normal</b>	88	21	4	1	114	90,4
<b>Vagnial bleeding</b>	3	2	1	1	7	5,6
<b>Abdominal pain</b>	1	2	0	0	3	2,4
<b>Vaginal bleeding + abdominal pain</b>	0	1	0	0	1	0,8
<b>Still birth</b>	0	1	0	0	1	0,8
<b>SUM</b>	92	27	5	2	126	100
<b>% of abnormal symptoms associated with number of reduced embryos</b>	4,3	22,2	20	50	<b>p &lt; 0,05</b>	

**TABLE 3.3. SYMPTOMS 1 WEEK AFTER EMBRYO REDUCTION**

# RESULTS AND DISCUSSION

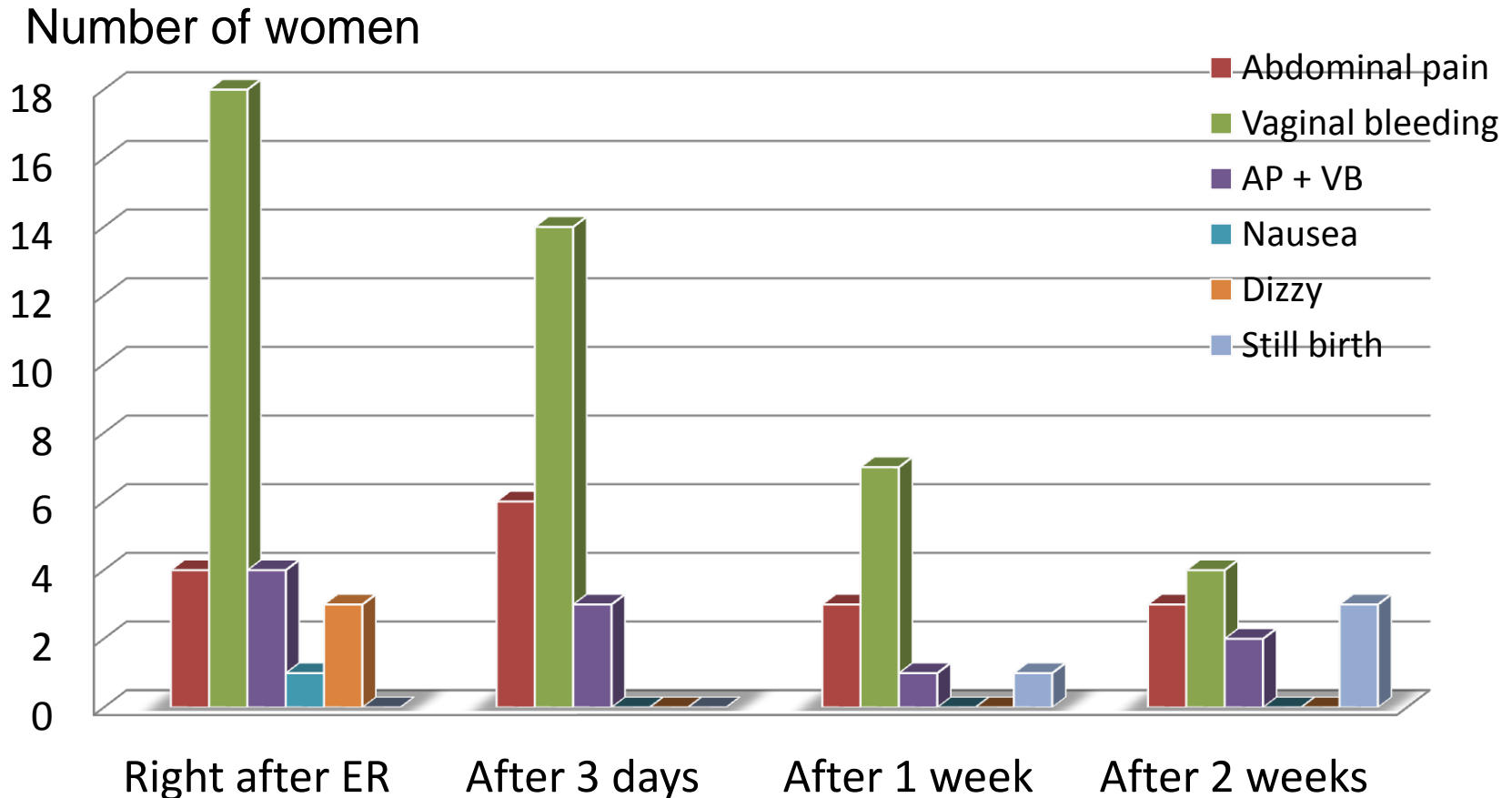
## 3.10. SYMPTOMS 2 WEEKS AFTER EMBRYO REDUCTION

Symptoms 1 week after embryo reduction	<i>Number of reduced embryos</i>				<i>SUM</i>	<i>%</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>		
<b>Normal</b>	86	21	5	2	114	90,4
<b>Vagnial bleeding</b>	3	1	0	0	4	3,2
<b>Abdominal pain</b>	1	2	0	0	3	2,4
<b>Vaginal bleeding + abdominal pain</b>	1	1	0	0	2	1,6
<b>Still birth</b>	1	2	0	0	3	2,4
<b>SUM</b>	92	27	5	2	126	100
<b>% of abnormal symptoms associated with number of reduced embryos</b>	6,5	22,2	0	0	<b>p &gt; 0,05</b>	

**TABLE 3.4. SYMPTOMS 2 WEEKS AFTER EMBRYO REDUCTION**

# RESULTS AND DISCUSSION

## 3.11. DEVELOPMENT OF ABNORMAL SYMPTOMS AFTER EMBRYO REDUCTION



**CHART 3.7. DEVELOPMENT OF ABNORMAL SYMPTOMS AFTER EMBRYO REDUCTION**

# RESULTS AND DISCUSSION

## 3.12. ULTRASOUND RESULTS AT 12 AND 22 WEEKS OF GESTATION

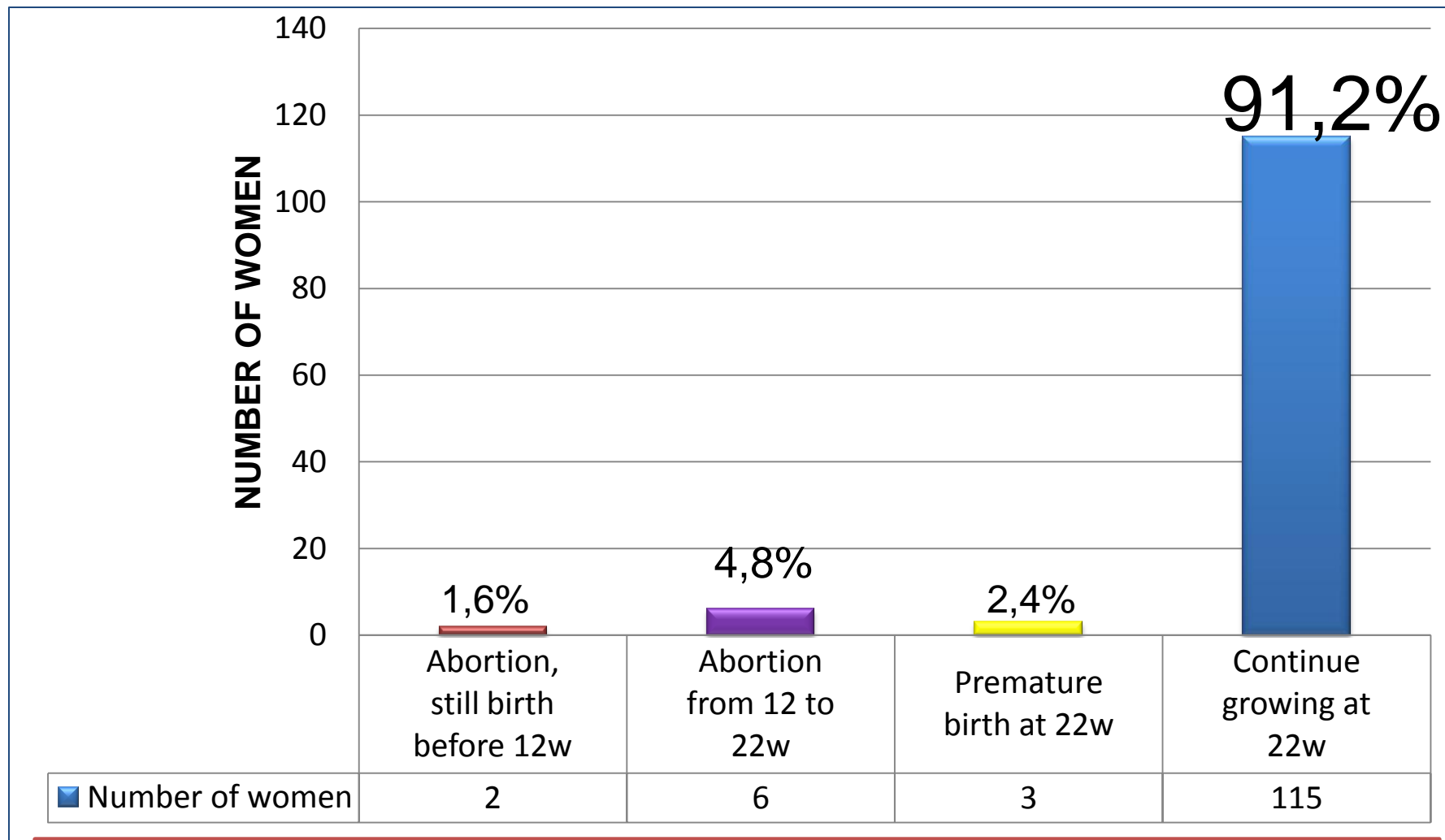
	<i>Abnormal</i>	<i>Normal</i>	<i>SUM</i>	<i>% of abnormal results</i>
<b>12-week ultrasound</b>	0	124	124	0
<b>22-week ultrasound</b>	3	114	117	2,6

**TABLE 3.5. ULTRASOUND RESULTS AT 12 AND 22 WEEKS OF GESTATION**



# RESULTS AND DISCUSSION

## 3.13. UP-TO-22-WEEK GESTATIONAL OUTCOMES



**CHART 3.8. UP-TO-22-WEEK GESTATIONAL OUTCOMES**



# RESULTS AND DISCUSSION

## 3.13. UP-TO-22-WEEK GESTATIONAL OUTCOMES

AUTHOR	SAMPLE NUMBER	% OF ABORTION, STILL BIRTH, PREMATURE BIRTH < 24W
Vuong Thi Ngoc Lan (2002)	n = 43	7,1%
Joanne Stone (2008)	n = 1000 (1996 – 2006)	5,9%
	n = 841 (2006 – 2008)	4,7%
Evans MI (2014)		13% (1990) → 4-5% (now)

# RESULTS AND DISCUSSION

## 3.14. GESTATIONAL OUTCOMES ASSOCIATED WITH NUMBER OF EMBRYOS BEFORE ER

22W GESTATIONAL OUTCOMES	<i>NUMBER OF EMBRYOS BEFORE AND AFTER ER</i>						<i>SUM</i>	
	<i>2→1</i>	<i>3</i>		<i>4</i>		<i>5→2</i>		<i>6→2</i>
		<i>3 → 1</i>	<i>3 → 2</i>	<i>4 → 1</i>	<i>4→2</i>			
<i>Pregnancy ending ≤ 22w</i>	0	1	7	0	2	1	0	11
<i>Nomal pregnancy at 22w</i>	3	6	82	1	18	3	2	115
<i>SUM</i>	3	7	89	1	20	4	2	126
<i>% of pregnancy ending ≤ 22w</i>	0	14,3	7,9	0	10	25	0	8,8
		8,3		9,5				

**TABLE 3.5. GESTATIONAL OUTCOMES ASSOCIATED WITH NUMBER OF EMBRYOS BEFORE ER**

# RESULTS AND DISCUSSION

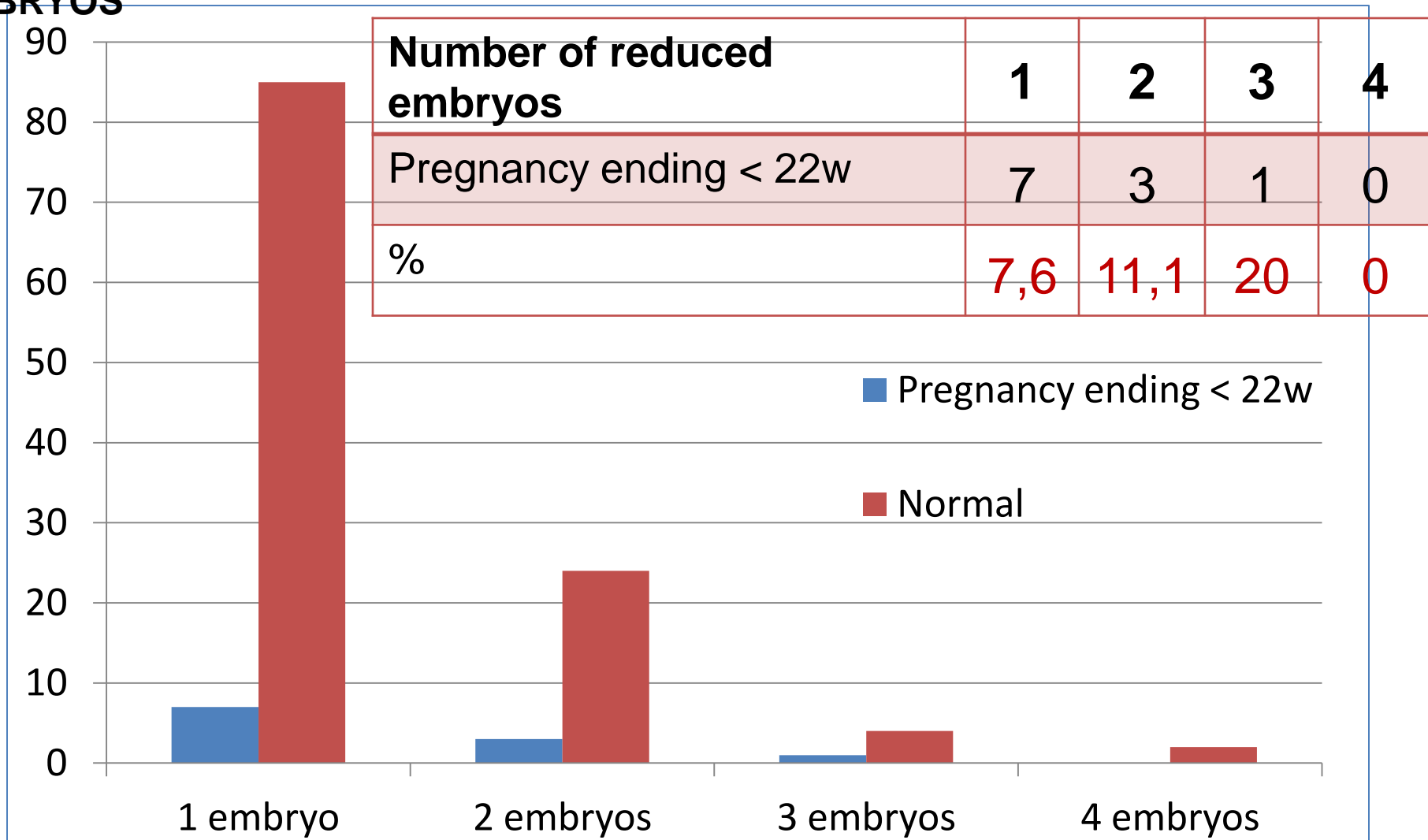
## 3.14. GESTATIONAL OUTCOMES ASSOCIATED WITH NUMBER OF EMBRYOS BEFORE ER

<b>Number of embryos before ER</b>	<b>% of nature abortion</b>	<b>Number of embryos after ER</b>	<b>% of abortion after ER</b>
<b><math>\geq 6</math> embryos</b>	90 – 99%	2	10%
<b>5 embryos</b>	75%	2	7%
<b>4 embryos</b>	25%	2	4%
		1	7%
<b>3 embryos</b>	15%	2	3,5%
		1	4%
<b>2 embryos</b>	8%	1	2,5%

**RELATIONSHIP BETWEEN PROPORTION OF ABORTION AND NUMBER OF EMBRYOS BEFORE AND AFTER ER ACCORDING TO EVANS MI. (2014)**

# RESULTS AND DISCUSSION

## 3.15. GESTATIONAL OUTCOMES ASSOCIATED WITH NUMBER OF REDUCED EMBRYOS



**CHART 3.9. GESTATIONAL OUTCOMES ASSOCIATED WITH NUMBER OF REDUCED EMBRYOS**

# RESULTS AND DISCUSSION

## 3.16. GESTATIONAL OUTCOMES ASSOCIATED WITH NUMBER OF EMBRYOS AFTER ER

GESTATIONAL OUTCOMES	<i>Number of embryos after ER</i>		<i>T-test</i>
	<i>1</i>	<i>2</i>	
Pregnancy ending < 22w	1	10	p > 0,05
SUM	11	115	
%	9,1	8,7	

TABLE 3.6. GESTATIONAL OUTCOMES ASSOCIATED WITH NUMBER OF EMBRYOS AFTER ER

# RESULTS AND DISCUSSION

## 3.16. GESTATIONAL OUTCOMES ASSOCIATED WITH NUMBER OF EMBRYOS AFTER ER

NUMBER OF EMBRYOS AFTER EMBRYO REDUCTION	SAMLE NUMBER	% OF ABORTION
1 FETUS	292	3.8%
2 FETUSES	547	5.3%

### GESTATIONAL OUTCOMES ASSOCIATED WITH NUMBER OF EMBRYOS AFTER ER ACCORDING TO JOANNE STONE (2008)

Evans MI (2014): Reduce to 1 embryo: reduce the rate of premature birth, increase the rate of term delivery, reduce low birth weight under 1500gr.

# RESULTS AND DISCUSSION

## 3.17. GESTATIONAL OUTCOMES ASSOCIATED WITH TIME OF ER

GESTATIONAL OUTCOMES	TIME OF EMBRYO REDUCTION		T - TEST
	43 TO 49 DAYS	50 TO 56 DAYS	
	Pregnancy ending < 22w	3	
SUM	73	53	
%	4,1	15,1	

**TABLE 3.7. GESTATIONAL OUTCOMES ASSOCIATED WITH TIME OF ER**

# RESULTS AND DISCUSSION

## 3.18. GESTATIONAL OUTCOMES ASSOCIATED WITH SYMPTOMS AFTER ER

GESTATIONAL OUTCOMES	SYMPTOMS AFTER ER		SUM	T-TEST
	NORMAL	ABNORMAL		
Pregnancy ending < 22w	5	6	11	p > 0,05
SUM	80	46	126	
%	6,3	13,0	8,8	

**TABLE 3.8. GESTATIONAL OUTCOMES ASSOCIATED WITH SYMPTOMS AFTER ER**



# CONCLUSION

- Total 126 pregnant women aged 20 to 45.
- 4% had natural multiple pregnancy. 61.1% after IVF.
- Embryo reduction was performed from 43 to 56 days, mainly from 43 to 49 days.
- Before ER, women had 2 to 6 embryos in the uterine. The majority had 3 embryos.
- After ER, 91.3% had 2 embryos, 8.7% had 1 embryo.

# CONCLUSION

- The most popular symptoms after ER was vaginal bleeding (3.2% to 11.1%). There may be a correlation between abnormal symptoms with number of reduced embryos but not significant.
- The proportion of normal pregnancy at 22w is 91.2%. 1.6% had abortion or still birth < 12w. 4.8% had abortion < 22w. 2.4% had premature birth at 22w.
- The relationship between number of embryos before ER, number of reduced embryos, number of embryos after ER; ER time; abnormal symptoms after ER and gestational outcomes has not been recognized.



SIDDHAKTHA

***THANK YOU FOR LISTENING!***