

## INTERCHANGEABLE USE OF 'ABORTION' AND 'MISCARRIAGE' AMONG WOMEN WITH INFERTILITY: A MEANS OF AVOIDING ABORTION DISCLOSURE AND PERCEIVED STIGMA

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Received date: 08 January 2022

Revised date: 28 January 2022

Accepted date: 18 February 2022

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### ABSTRACT

**Background:** Pregnancy loss prior to viability, initially simply referred to as 'abortion', was later interchangeably referred to as abortion or miscarriage and finally distinguished into 'abortion' referring to intentional losses and 'miscarriage' referring to spontaneous occurrences. The distinction had some psychological and emotional implications, including abortion stigma. Infertility in a woman who has experienced abortion can lead to additional psychological stress. Such women may prefer the use of the two terms interchangeably as a way of avoiding abortion disclosure and the attendant stigma. **Objective:** To document the responses of women with infertility to history of abortion and miscarriage and determine whether they use the terms distinctly or interchangeably. **Methodology:** This is a prospective study involving 159 women with 2<sup>0</sup> infertility. History of previous abortion and previous miscarriage were obtained with other interspacing questions. Data was analyzed using the Statistical Package for Social Sciences, version 21. Frequency, measures of central tendencies and dispersion as well as McNemar test, T-test and Chi-square test were obtained.  $P \leq 0.05$  was considered statistically significant. **Results:** Age range was 21- 49 years and mean  $33.5 \pm 5.1$  years. There were 134 and 132 subjects with positive history of miscarriage and abortion respectively. McNemar test and T-test showed no significant difference between the two variables and no difference in their means ( $P = 0.754$  and  $P = 0.477$  respectively). **Conclusion:** The responses to abortion and miscarriage were similar and showed no significant differences. These findings are in keeping with interchangeable use of the two terms.

**KEYWORDS:** Abortion, miscarriage, disclosure, pregnancy loss, stigma, spontaneous, intention.

### INTRODUCTION

Abortion was a term generally used to describe pregnancy demise (or pregnancy loss) prior to foetal viability.<sup>[1,2]</sup> The age at which a fetus is deemed viable varies: it can be as early as 20weeks gestational age in the very advanced nations, but much later in the less advanced nations.<sup>[3-4]</sup> Pregnancy loss can be recurrent, in which case, it involves loss of two or more consecutive pregnancies by the same individual.<sup>[5-6]</sup>

Predisposing factors for spontaneous pregnancy loss include advanced maternal age and foetal chromosomal abnormalities; but maternal conditions like hypertension, obesity, cigarette smoking, trauma, history of prior spontaneous abortion, increased parity and family history

of spontaneous abortion may also increase the risk of unintentional pregnancy loss.<sup>[7-11]</sup> However, some pregnancy losses result from intentional decisions and actions of the pregnant women (with or without support from significant others) and this could be for such reasons as emotional unpreparedness, social, economic, health and religious considerations.<sup>[12,13,14]</sup>

Over time pregnancy loss was distinguished into two, based on whether intentional or not. Spontaneous loss of pregnancy was termed 'miscarriage', spontaneous abortion, failed pregnancy, or simply pregnancy loss; while intentional one was referred to as 'induced abortion' or simply as 'abortion'.<sup>[3,15,16]</sup> As a result, abortion represents intentional termination of pregnancy

prior to viability, while miscarriage represents spontaneous loss. The incidence of miscarriage varies from 10-25% of all clinically diagnosed pregnancies and the global abortion rate was 29 abortions per 1000 women aged 15–44 years in 2003.<sup>[3,17]</sup>

The distinction between abortion and miscarriage in describing pregnancy loss prior to viability has some psychological implications, prominent among which is stigmatization.<sup>[12,13]</sup> Perception of stigma associated with pregnancy loss is a complex phenomenon and has multiple influencing factors like age, marital status, race, religion, and level of education.<sup>[12,13,14]</sup> For instance, while a study by Makleff *et al.*<sup>[13]</sup> showed that women with strong religious beliefs show more abortion stigmas than those without such beliefs, another study by Bommaraju *et al.*<sup>[14]</sup> showed that white women in addition to perceiving abortion stigma more than black women, also perceive it more stigmatizing than miscarriage. Some women reported limiting disclosure of their abortion for fear of stigma, sanctions and judgement, while some who experienced miscarriage felt guilty, isolated and alone.<sup>[18-19]</sup>

Therefore it can be said that personal, societal, religious and legal perceptions may have such profound psychological and emotional impacts on the women as to result in denial or refusal to disclose the history of abortion especially where abortion is not legalized.<sup>[2,15]</sup> However, it has been noted that liberal abortion laws may reduce the rate of unsafe abortion, but will fail to obviate the burden of associated stigma.<sup>[17]</sup> For instance, in the United States, though abortion was legalized and was common, women with abortions nonetheless reported significant social stigma in association with abortion.<sup>[12]</sup> Hence, subjects that feel there is significant stigma from abortion, may prefer using the two terms interchangeably as a means of avoiding abortion disclosure and resultant stigma.

The considerations above may have been the major reasons why neither medical journals, nor medical textbooks nor medical practitioners found it easy to readily adopt and apply the distinctive use of ‘abortion’ and ‘miscarriage’.<sup>[15]</sup> It was noted that though the term ‘miscarriage’ appeared for the first time in the indices of the British Medical Journal in 1978, until 1999, readers looking for ‘miscarriage’ in the index were directed to look rather for ‘abortion’.<sup>[15]</sup> In medical textbooks and among medical practitioners, the two terms continued to be used interchangeably.<sup>[15]</sup> It was after series of letters, seminars and conferences and in some cases back-up or underlying legislation that medical practitioners adopted these distinctive terms in their practice.<sup>[15]</sup> It is possible that some patients, some members of the general public or even some medical practitioners still prefer to use the two terms interchangeably.

Hysterosalpingography (HSG) is commonly used to investigate women with infertility in our environment.<sup>[20]</sup>

Miscarriage is said to be commoner among infertile women and infertility is said to be commoner among women with recurrent miscarriage.<sup>[8,21,22]</sup> Therefore, some women presenting for HSG as part of infertility work-up, may also have had abortion or miscarriage or even recurrent miscarriages. Our society disapproves of infertility and commonly attributes infertility in a couple to female factor, thus placing much emotional and psychological burden on infertile women.<sup>[23,24]</sup> Superimposing the burden of abortion stigma on the infertility burden of such women, will no doubt increase the degree of their emotional and psychological stress.

This concern may be significant enough as to make them resort to using the terms interchangeably instead of distinctly, thereby avoiding abortion disclosure. This needs to be tested statistically as the result will be useful to practicing physicians, marriage and religious counsellors as well as policy makers. Obtaining the history of previous abortions and miscarriages among infertile women and testing for significant differences between the two variables will be useful to show whether they are responding to the two terms distinctly or using them interchangeably. Available literature shows paucity of such statistical study especially in our environment. This study will help in providing statistically tested evidence of interchangeable or otherwise distinct use of the two terms in our environment.

## METHODOLOGY

This is a prospective paired group analytical study involving 159 women with 2<sup>o</sup> infertility that were referred for HSG. It was carried out simultaneously at the department of Radiation Medicine of the University of Nigeria Teaching Hospital Ituku-Ozalla, Enugu state, and Hansa Clinics (a radiology centre located in Enugu) for six consecutive months. Ethical clearance was obtained from the Hospital Research Ethics Committee prior to the study.

Subjects who gave their consent for the study were included while those with primary infertility and those who declined consent or gave incomplete information on abortion or miscarriage were excluded from the analysis.

As part of general and clinical information obtained from the patients before HSG, questions were asked as in a typical clinical setting and patients’ responses were recorded. These included questions on miscarriages and abortions interspaced with other questions like age, parity and age at menarche. This interspacing with other questions was to reduce the emphasis on abortion and miscarriage which may lead to abortion denial or under reporting. The information were collected and analysed using the Statistical Package for the Social Sciences (SPSS) version 21.0 by IBM Corp. Armonk, New York, USA.

Frequency tables and charts, measures of central tendencies, and measures of dispersion were obtained.

McNemar’s test for differences as well as Paired T-test for difference in mean between the two variables of interest (abortion and miscarriage) were carried out. Chi-square test for association between parity and positive history of miscarriage as well as parity and positive history of abortion were also carried out.  $P \leq 0.05$  was considered statistically significant.

**RESULTS**

Two hundred and thirteen (213) subjects were recruited for the study. Thirteen supplied incomplete information and were excluded from analysis. Forty one (41) had primary infertility and were also excluded from analysis. Of the 159 subjects that were analysed, the ages ranged from 21 to 49 years with a mean of  $33.5 \pm 5.1$  years, mode of 35 years and median of 34 years. The age distribution showed that 23.9% of the subjects were aged 20-29 years, 61.6% were aged 30-39 years and 14.5% were aged 40-49 years (see fig. 1).

The total number of miscarriages recorded was 264 with mean of 1.66 and median of 1.0; while total number of abortions was 273 with mean of 1.72, median of 1.0. One

hundred and thirty four (134) subjects gave a positive history of miscarriage (see fig.2) and 132 gave a positive history of abortion, while 25 and 27 supplied a negative history of miscarriage and abortion respectively (see table 1). One hundred and twenty eight (128) patients gave a positive history of both miscarriage and abortion while 21 gave a negative history of both (see table 1).

McNemar test for differences between the subjects’ responses to miscarriage and abortion showed no significant difference ( $P = 0.754$ ). Paired T-test (two-tailed) showed no significant difference in means of the number of miscarriages and abortions disclosed ( $P = 0.477$ ). Both miscarriage and abortion elicited more positive response among the patients with parity of  $\geq 1$  than the nulliparous (parity of 0). Pearson Chi-square test showed significant association of parity with both positive history of abortion and positive history of miscarriage (table 2). Positive history of miscarriage occurred in; 66.7% of the subjects with menarche age of  $\leq 11$  years, 90% of those of 12-13 years and 84.6% of those of  $\geq 14$  years.

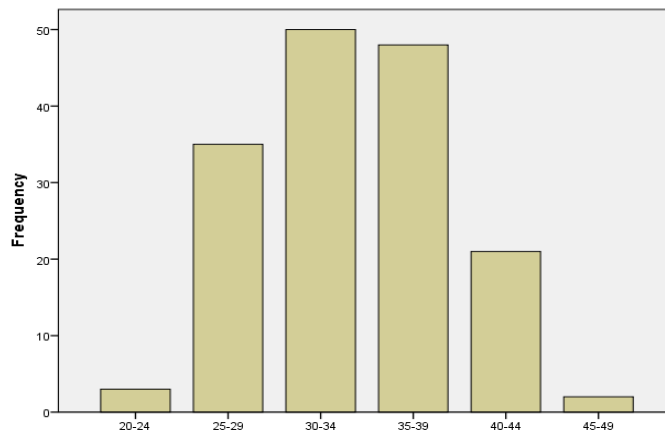


Fig. 1: Bar chart; showing age distribution of the subjects.

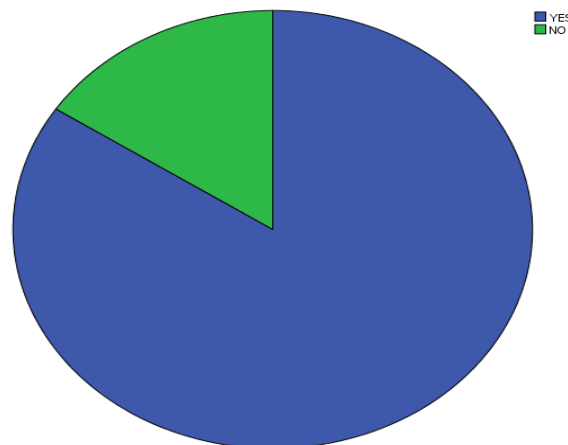


Fig. 2: Pie chart showing subjects’ response to history of miscarriage.

**Table 1: Crosstabulation of history of miscarriage and abortion.**

		ABORTION		Total
		Positive	Negative	
MISCARRIAGE	Positive	128	6	134
	Negative	4	21	25
Total		132	27	159

**Table 2. Chi-square test for association of parity with positive history of miscarriage and abortion.**

Variables	p-value
Parity vs positive history of miscarriage	<0.001
Parity vs positive history of abortion	<0.001

**DISCUSSION**

The minimum age of the subjects in our study (21 years) is higher than 15 years which was the minimum age of the subjects used in the study of global abortion rate of 2003.<sup>[17]</sup> The maximum age in our study (49 years) is also higher than 45 years used in that study. The relatively higher age limits in our study might be due to the fact that our subjects were a group of married women with 2<sup>o</sup> infertility. On the other hand, the inclusion of unmarried females and those without history of infertility may lower the minimum age in the global estimation. Furthermore, in the global study, the inclusion of subjects from other races where sexual exposure occur at lower age group may lower the minimum age.

Majority of our patients were aged 30-39 years. This might be because below 30 years, many women might not have married or even if married, might be seriously engaged in academic, career or professional pursuit; and any of these could reduce the concern for infertility or the availability for infertility work-up. On the other hand, in their thirties, many married women are likely to experience increased awareness of possibility of impending menopause and this would lead to increased concern for fertility and hence increased consultation within 30-39 years range. At 40-49 years, there would be more concern for fertility, but many might have been menopausal and ceased further consulting on account of infertility.

With no significant difference between the responses to the two terms on McNear test nor in their means on paired T-test; it could be seen that the subjects were giving similar answers to the two questions. Since our society seriously disapproves of abortion, the pattern of responses in the study is in keeping with interchangeable use of the terms as a means of avoidance of abortion disclosure in order to avoid or reduce perceived stigma.

This is not likely the case of abortion underreporting in which, the number of abortions disclosed would have been much less. Another possibility is that similar number of the subjects had similar numbers of both abortions and miscarriages. But this appears unlikely. The reluctance of practicing physicians and medical journals and textbooks to adopt the use of the terms

differently as already noted by other authors,<sup>[15]</sup> may have resulted from their awareness of this preference by the patients and concern for patients' sensibilities.<sup>[25]</sup>

Contrary to the finding of Bulletti et al.<sup>[8]</sup> of increased risk of spontaneous abortion among the women with menarche age of ≤ 11 years than those ≥ 12 years, ours showed miscarriage occurring in a higher percentage of those with menarche age ≥ 12 years compared to those with ≤ 11years. The cause for this disparity is not obvious, but might be due to racial differences.

Our study showed significant association between increased parity and both positive history of miscarriage and positive history of abortion. This is in consonance with a study by Naylor et al.<sup>[11]</sup> who found the risk of abortion greater at higher parity among women with histories mixing spontaneous abortions and live births, and that of Cohain et al.<sup>[10]</sup> that noted the rate of first trimester miscarriage rising with increasing parity. These associations might be because 'parity' (which refers to the number of times a woman has carried pregnancy up to the age of viability) is preceded by conception and any pregnancy may end up in miscarriage, abortion or be carried to the age of viability. Therefore, the more the number of conceptions, the more likely the number that will end up in miscarriage or abortion or be carried to viability.

With the above consideration, the number of conceptions (gravidity) should be regarded as the risk factor for miscarriage while parity would be regarded as a 'co-outcome' of and not a predisposing factor for miscarriage. However, our study did not include gravidity. On the other hand, if increase in parity induces some anatomical, immunological, hormonal, or psychological changes that lead to subsequent miscarriage, then parity could be considered an actual risk factor for miscarriage.<sup>[8]</sup> Such anatomical and hormonal changes are not included in this present study.

**CONCLUSION**

The marked similarities between the number of abortions and miscarriages disclosed, indicates that the subjects used the terms interchangeably. This signifies avoidance



of abortion disclosure and the perceived attendant stigma.

## RECOMMENDATION

The psychological impact of use of abortion and miscarriage on the patients should be borne in mind when communicating with them. This does not necessitate abandonment of the distinctive terms but emotional intelligence and tactfulness in communication on the part of attending physicians, marriage counselors, policy makers and other stake holders. Similar studies with large population size and involving wider group of women are recommended. Furthermore, studies that include gravidity, miscarriage, abortion and parity as well as the anatomical, hormonal, psychological and other changes induced by them which may predispose to subsequent miscarriage, are also recommended.

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