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Online Fertility Survey

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Abstract

Objective: To determine the level of knowledge on common fertility issues among the population studied.

Outcome measures: Fifty percent or more of the respondents correctly answering a particular question was adjudged as sufficient knowledge of that particular fertility issue and less than 50% adjudged insufficient knowledge.

Methodology: The study was conducted by the Nordica Fertility Centre Lagos in 2012. A simple multiple choice questionnaire with 20 questions about fertility was posted on the Nordica Fertility Centre Lagos website for visitors to the site to answer. Results were collated and analyzed using SPSS 17.0.

Results: A total of 289 persons participated in the online survey. Majority of the respondents lived in the Lagos area but responses came in from virtually all over Nigeria. A few responses came from outside Nigeria. There was sufficient knowledge on such issues as definition of infertility, age at which woman's fertility is maximal, frequency of intercourse per week when trying to conceive, who to see after a year of tests with no success, basic infertility tests for men, normal sperm counts, most common sperm abnormality, strongest risk factor for infertility in women, how long to wait before seeking help in women less than 35 years of age, what is unexplained infertility, meaning of menopause and what was the most successful option for older women trying to conceive. There was insufficient knowledge on sex positions increasing the likelihood of conception, monthly chance of conception, gender that experiences infertility most, causes of infertility, fertile period and irregular cycles. Up to 65% of the respondents felt certain sex positions increase the likelihood of conception. Over 30% said that a woman's fertility begins to decline from 40 years and beyond. About forty seven percent felt mere change of dates of menses monthly meant cycles were irregular.

Only 49.5% correctly knew the fertile period. About 61% thought monthly natural fertility/conception rates was 50-70%. *Staphylococcus* was considered the leading factor in the causation of infertility by 41% of respondents, scored higher than male, female and combined factors. Majority of the respondents, 42.9% felt women were the gender that experienced infertility most while 11.4% of them said it was the men.

Conclusion: There is still a need to improve knowledge on fertility and infertility. The online portal is a good source for this.

Keywords: Fertility; Knowledge; Internet; Infertility

Introduction

Infertility is of public health importance in Nigeria and many developing nations because of its high prevalence and especially due to its serious social implications [1]. It is a major source of distress and frustration for men and women and medical practitioners. It causes great worry and sorrow for many couples in Africa especially for the women [2]. The knowledge of infertility and fertility determines, to a large extent, the health seeking behavior of sufferers. There seems to be a lot of ignorance and miss information and superstitious beliefs and myths out there about fertility, infertility, its causes and how to best manage it. A lot of the difficulties in infertility management arise from delay in presentation. Some of this delay is due to lack of knowledge. The fertility IQ 2012 healthcare provider survey revealed that most patients were aware of general fertility information but were less aware of specific details [3]. When men and women become aware of all the issues surrounding fertility and infertility they would be more likely able to properly address this problem. One major way of reaching people these days of the computer age especially the young generation who are the main target audience in fertility information dissemination is via the internet.

Materials and Methods

The study used the Nordica Lagos website www.nordicalagos.org as the location for the study. A simple 20 question multiple choice self-administered questionnaires were posted on the website in May 2012 for visitors to the site to answer and submit.

The study was conducted over a period of one month. The questionnaire had time duration for it to be answered once logged into the site and the questionnaire clicked and once submitted could not be edited. At the end of the study the responses were scored and the results collated and analysed using SPSS version 17.0. If at least 50% of respondents correctly answered a question it was adjudged as sufficient knowledge on that item or issue and vice versa.

Results

A total of 289 persons participated in the online survey. Majority of the respondents lived in the Lagos area but responses came in from virtually all over Nigeria. A few responses came from outside Nigeria.

Table 1: Percentage distribution of public perception of woman's fertility characteristics.

Variable	Sub-variable	Frequency	Percentage
Age (years) at which woman's fertility is maximal	15-19	58	20.1
	20-24	158	54.7
	25-30	47	16.3
Age (years) at which woman's fertility begins to decline	>30	26	9
	30	72	24.9
	35	128	44.3
Time for a 20-year old to get pregnant having regular unprotected intercourse	40	47	16.3
	45	42	14.5
	5 months	33	11.4
What is the fertile period	2 months	181	62.6
	3 months	67	23.2
	4 months	8	2.8
	The day of ovulation	74	25.6
Strongest risk factor for infertility in women	4 days before ovulation until day of ovulation	143	49.5
	3 days after ovulation	42	14.5
	One week after ovulation	30	10.4
	Smoking	13	4.5

Table 2: Public views on cycle irregularity, infertility and conception.

Variable	Sub-variable	Frequency	Percentage
What is irregular cycle	Change of dates each month	135	46.7
	Absence of menstrual period for 2-3 months or more	131	45.3
	Shorter days of menstrual flow	19	6.6
	Total absence of menstrual flow	4	1.4
What is infertility	Inability to conceive after 1 month of sexual intercourse without contraception	22	7.6
	Inability to get pregnant after marriage	21	7.3
	Inability to conceive after one year of sexual intercourse without contraception	233	80.6
	Inability to get pregnant within 3 months of sexual intercourse	13	4.5
Frequency of intercourse per week when trying to conceive	2-3 times per week	187	64.7
	Everyday	37	12.8
	Once a week	1	0.3
	Only in the fertile period	64	22.1
Causes of infertility	Male factor	2	0.7
	Female factor	4	1.4
	Staphylococcus	120	41.5
	Combined factor	35	12.1
Gender that mostly experiences infertility	Unexplained factor	128	44.3
	Male	33	11.4
	Female	124	42.9
Strongest risk factor for infertility in women	Combined equally	103	35.6
	Neither (Don't know)	29	10
	Advancing age	152	52.6
What unexplained infertility is	Previous venereal disease	50	17.3
	Previous venereal disease	74	25.6
	Smoking	13	4.5
Abstinence induced infertility	Father of child is unknown	7	2.4
	Cause of infertility is not known	260	90
	Patient won't let us touch her	7	2.4
	Abstinence induced infertility	15	5.2

Population perception of fertility characteristics of a woman is illustrated in **Table 1**; which 54.7% and 44.3% respondents respectively believed that age at which a woman's fertility is maximal falls between 20 and 24 years and that fertility begins to wane at 35 years. The Table also shows there was insufficient knowledge on monthly chance of conception as majority (181, 62.6%) of the respondents said 2 months was "time for a 20-year old to get pregnant having regular unprotected intercourse." The Table also shows that there was insufficient knowledge on what fertile period is as a many of the respondents (143, 49.5%) regarded this to be 4 days before ovulation until day of ovulation.

Public perception of irregular cycle was inappropriate as most (135, 46.7%) respondents felt mere change of dates of menses monthly meant cycles were irregular (**Table 2**). However, it was observed that the public was quite knowledgeable on the definition of infertility (233, 80.6%), frequency of intercourse per week when trying to conceive (187, 64.7%), strongest risk factor for infertility in women (152, 52.6%) and definition of unexplained infertility (260, 90.0%). It was surprising that a high proportion (120, 41.5%) of public considered staphylococcus as cause of infertility over male (2, 0.7%), female (4, 1.4%) or combined (35, 12.1%) factor. Although gender that experiences infertility most was inappropriately assumed by the public as female (124, 42.9%), unexplained infertility (260, 90.0%) and strongest risk factors for infertility in women (152, 52.6%) were correctly identified as "cause of infertility is not known" and as "advancing age."

Table 3: Distribution of characteristics of older women.

Variable	Sub-variable	Frequency	Percentage
What does menopause mean	Declining ovarian function	213	73.7
	Proper functioning of the ovaries	6	2.1
	Damaged ovaries	2	7
	Eggs in the ovaries are depleted	68	23.5
Most successful option for older women	IVF using own eggs	70	24.2
	IVF using donor eggs	163	56.4
	Intrauterine insemination	32	11.1
	Gamete intrafallopian transfer	24	8.3

Distribution of perceptions of the characteristics concerning older women is as described in **Table 3**. Public opinion was correct on the meaning of menopause, believed by a high proportion (213, 73.7%) of respondents as decline in ovarian function. Most successful option for conception among older women was correctly perceived as IVF using donor eggs by most respondents (163, 56.4%) while few (24, 8.3%) considered it to be Gamete intra-fallopian transfer.

Where male characteristics in fertility issue was concerned, approximately half (144, 49.8%) of the public took normal sperm count as >20 million/ml though higher proportions (246, 85.1%; 226, 78.2%) saw low sperm count and Seminal Fluid Analysis respectively as the most common sperm abnormality and the basic infertility test done for men in the environment of survey (**Table 4**).

Table 4: Characteristics of males in fertility and infertility.

Variable	Sub-variable	Frequency	Percentage
Normal sperm count	1-5 million/ml	34	11.8
	5-10 million/ml	48	16.6
	15-20 million/ml	63	21.8
	>20 million/ml	144	49.8
Most common sperm abnormality	Poor sperm motility	37	12.8
	Low sperm count	246	85.1
	Staphylococcus infection	4	1.4
	HIV infection	2	0.7
Basic infertility test done for men	Serum FSH	19	6.6
	Serum testosterone	42	14.5
	Seminal Fluid Analysis	226	78.2
	Post coital test	2	0.7

Table 5: Sex position, time trying to conceive and help-seeking attitude.

Variable	Sub-variable	Frequency	Percentage
Certain sex positions increase the likelihood of conception	TRUE	189	65.4
	FALSE	41	14.2
	Can't say	50	17.3
	None of the above	9	3.1
How long to wait before seeking help by women <35 years	6 months	106	36.7
	12 months	157	54.3
	18 months	16	5.5
	24 months	10	3.5
After a year of trying and tests without success who should a woman/man see	General Practitioner	4	1.4
	Gynecologist	110	38.1
	Fertility Specialist	174	60.2
	Nurse	1	0.3

Surprisingly a high proportion (189, 65.4%) of the respondents mistakenly believed that certain positions increase the likelihood of conception indicating insufficient knowledge on this issue (**Table 5**). Nevertheless, there was sufficient knowledge on who to see after a year of tests with no success as a sizeable proportion (174, 60.2%) opted for Fertility Specialist while most (157, 54.3%) decided that a woman aged <35 years should wait for 12 months before seeking fertility assistance.

Discussion

A good number participated in the study. Lagos is the most populated, cosmopolitan and advanced city in terms of use of internet in Nigeria therefore it was not surprising that majority of the responses came in from the Lagos area. There was sufficient knowledge on such issues as definition of infertility, age at which a woman's fertility is maximal, frequency of intercourse per week when trying to conceive, who to see after a year of tests with no success, basic infertility tests for men, normal sperm counts, most common sperm abnormality, strongest risk factor for infertility in women, how long to wait before seeking help in women less than 35 years of age, what is unexplained infertility, meaning of menopause and what was the most successful option for older women trying to conceive. It was however interesting to note that there was insufficient knowledge on sex positions where a majority felt certain sex positions influenced the chance of conception. This may psychologically affect couples as they may only insist on certain position before they can have intercourse and these may cause friction in their relationship. It was interesting that more than a quarter of the respondents said that a woman's fertility started to decline at 40 years and beyond. This may explain delay in starting families and delay in presentation which adversely affects chances of conception. About half of the respondents didn't understand the regularity or otherwise of the menstrual cycle and the fertile period. This may portray how they use it to try to conceive. Many of the respondents felt monthly conception rates were as high as 50-70%. This erroneous believe may be partly responsible for how they view assisted reproduction technology and its success rates and how easy they think it is getting pregnant monthly hence delaying presentation. In Nigeria, many couples have delayed seeking medical help from fertility experts because of the believe made popular by quacks/unqualified drug vendors that staphylococcus was a main cause of infertility and they could treat it with certain medications and then can achieve

pregnancy irrespective of whether the woman had blocked fallopian tubes or the man had severe oligospermia or azoospermia. This does wastes time and resources and delays resort to fertility treatment. As is typical in this part of the world accusing fingers usually point to the woman in cases of infertility [1]. In Africa, it is taboo to discuss male infertility. It is something to be concealed at all costs. In Zimbabwe, a traditional practice called "chiramu" involves clandestine bringing-in of the husband's close relative to impregnate the wife [3]. There is psychological distress and trauma for the woman due to insults from spouse, relatives and neighbors and the husband might take a second wife [2]. The respondents in this study gave more of the blame or problem of infertility to the womenfolk and less to the men.

Conclusion

There is still a need to improve knowledge on fertility and infertility. The online portal is a good source for this. The knowledge from such surveys as this could be used by health care providers to tailor the information they provide to optimize their communication with patients [4].

Study Limitations

This study consists of some limitations related to the cross sectional nature of the study, it looks for associations, not causes and effects. The DHS is a household based survey, and hence excludes significant non-household population groups, like those living on the street or in institutions, for example, prisons, colleges or boarding schools, military barracks, refugee camps, which could have more risk sexual behaviors than the household population. Similarly, as the questionnaire is designed to collect self-reported responses, there could be recall biases and socially-desirable responses and the missing data in the data files may affect the results.

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