ORIGINAL RESEARCH ARTICLE

Prevalence and determinants of use of traditional methods of infertility treatment among women attending infertility clinic in Southeast Nigeria

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Abstract

Infertility, an obstacle to healthy living, makes its victims patronize traditional methods of infertility treatment (TMIT) in spite of associated complications. They turn to hospitals when this method fails. This is actually a serious issue because the presence of contaminated herbal products and the relationship between the use of TMIT and noncompliance with biomedical treatment regimens constitutes a major concern in medical practice. And the use of traditional methods of infertility treatment has been correlated with severe and fatal consequences. Therefore, the study assessed prevalence/determinants of TMIT use among patients visiting the gynaecology clinic at Alex Ekwueme Federal University Teaching Hospital Abakaliki (AE-FUTHA). Descriptive cross-sectional design was adopted for the research. Only 263 women took part in the study. The research instrument was questionnaire. Data were analyzed using descriptive statistics. Findings revealed that 95.4% of these women have used traditional methods for infertility treatment and factors influencing infertile women's use of TMIT are demographic characteristics, infertility duration, husbands' relatives' pressure and cheap cost of traditional medical treatment. Again, inability of infertile women to disclose TMIT use to healthcare providers makes effective treatment difficult. Therefore, these impediments expose infertile women to use TMIT. The result is a guide to healthcare providers who are expected to know the extent of their parents' use of TMIT. *(Afr J Reprod Health 2022; 26[3]: 63-73).*

Keywords: Gynaecology, infertility, prevalence of infertility, traditional medicine, women

Résumé

L'infertilité, un obstacle à une vie saine, fait que ses victimes fréquentent les méthodes traditionnelles de traitement de l'infertilité (TMIT) malgré les complications associées. Ils se tournent vers les hôpitaux lorsque cette méthode échoue. Il s'agit en fait d'un problème sérieux car la présence de produits à base de plantes contaminés et la relation entre l'utilisation de TMIT et le non-respect des schémas thérapeutiques biomédicaux constituent une préoccupation majeure dans la pratique médicale. Et l'utilisation de méthodes traditionnelles de traitement de l'infertilité a été corrélée à des conséquences graves et mortelles. Par conséquent, l'étude a évalué la prévalence/les déterminants de l'utilisation du TMIT chez les patientes visitant la clinique de gynécologie de l'hôpital universitaire fédéral Alex Ekwueme d'Abakaliki (AE-FUTHA). Une conception transversale descriptive a été adoptée pour la recherche. Seules 263 femmes ont participé à l'étude. L'instrument de recherche était le questionnaire. Les données ont été analysées à l'aide de statistiques descriptives. Les résultats ont révélé que 95,4 % de ces femmes ont utilisé des méthodes traditionnelles de traitement de l'infertilité et que les facteurs influençant l'utilisation du TMIT par les femmes infertiles sont les caractéristiques démographiques, la durée de l'infertilité, la pression exercée par les parents des maris et le coût peu élevé du traitement médical traditionnel. Encore une fois, l'incapacité des femmes infertiles à divulguer l'utilisation de TMIT aux prestataires de soins de santé rend difficile un traitement efficace. Par conséquent, ces obstacles exposent les femmes infertiles à utiliser le TMIT. Le résultat est un guide pour les prestataires de soins de santé qui sont censés connaître l'étendue de l'utilisation du TMIT par leurs parents. *(Afr J Reprod Health 2022; 26[3]: 63-73).*

Mots-clés: Gynécologie, infertilité, prévalence de l'infertilité, médecine traditionnelle, femmes

Introduction

Reports indicating a steady increase in human infertility abide in every clime, both in developed and developing nations. Infertility is an obstacle to good health in Africa[1,2], where the ability to produce children is what qualifies a person as a "man" or "woman". Infertility is seen as a

genealogical threat. Childless women face dreadful conditions such as stigmatization, domestic violence, psychological trauma and death[3,4]. In resource limited societies, couples fully rely on their children for old age support[5].The adverse consequences of infertility are more obvious in developing countries[6]. Therefore, infertility is a severe social problem for women, couples, extended families and various communities[7]. However, there has been noticeable difference in the prevalence rate of infertility between the developed and developing countries. For instance, in US, the rate of infertility is put at 6% while it is 15% in UK. But, rate of infertility in developing countries is above 25%. In Nigeria, it is put at 22%[8,9]. In the same vein, the prevalence rate for the use of traditional methods of infertility treatment is high. The prevalence rate for the use of herbal medicine for infertility treatment among women in Africa has been put at 76.2% while that of Nigeria is put at 81.6%[4,10]. This is actually a serious issue because the presence of contaminated herbal products and the relationship between the use of traditional medicine and noncompliance with biomedical treatment regimens constitutes a major concern in medical practice.

Again, it is difficult to access effective and affordable biomedical infertility care in developing nations like Nigeria. Infertility treatment is difficult to be obtained in hospitals. This is because of other life-threatening public health issues such as infant and maternal morbidity/mortality. In other words, there is existence of poor indicators of reproductive health in the formal sector. Most of the time, medical practitioners in the hospitals do not see infertility as life threatening. They usually believe that it has no fatality unlike maternal morbidity[4]. Consequently, the treatment needs for infertility remain unattended to. In the face of this challenge, victims of infertility tend to consult traditional healers earlier in their quest for infertility solution. They only turn to biomedical healers when these other methods fail[11,12].

Traditional healthcare system, the oldest medical system in Nigeria, is the initial avenue of assessing care for 75% of Nigerians[13]. Similarly, 80% of Africans use some form of traditional medicine[14,15]. Traditional herbal medicines therefore constitute major component of primary healthcare system in rural communities[13].

However, use of traditional methods of infertility treatment has been correlated with severe and fatal consequences[16,17]. Some reports have it that some of the traditional herbs contain mycotoxins which lead to diseases such as esophageal/liver cancer[8]. In spite of these, traditional methods of infertility treatment are still seen as cost effective and are supported by the people's culture. Again, many infertile women are willing to undertake risk in order to conceive and bear children.

As a result, the study assessed the prevalence as well as the factors that determine the use of traditional methods of Infertility treatment (TMIT) among patients visiting the gynaecology clinic at Alex Ekwueme Federal University Teaching Hospital Abakaliki. The study also intends to find out the extent of use of TMIT by the women. Specifically, the objectives of the study are: (i) to determine the extent to which demographic characteristics (duration of infertility, marriage type, extended family and husband's family status) influence the use of traditional methods of infertility treatment by the women; (ii) to find out the infertility history of respondents; (iii) to determine the extent to which infertile women used traditional methods of infertility treatment; (iv) to find out the determinants of the use of traditional methods of infertility treatment. Understanding the prevalence and the determining factors for the use of traditional medicine by infertile women will go a long way in furthering patient-centred care and increasing the compliance level for early treatment of infertility.

Methods

Research design

To achieve the above objectives, the study adopted descriptive cross-sectional research design; and it focused on infertile women who were attending the gynaecology clinic at Alex Ekwueme Federal University Teaching Hospital Abakaliki, Ebonyi State, Southeast Nigeria. Infertile women were chosen because in Africa whenever infertility is the problem, women bear the brunt. They are usually the ones that run around, visiting different place, looking for solution. Similarly, Alex Ekwueme Federal University Teaching Hospital Abakaliki (AE-FUTHA) is chosen because Abakaliki town and its environs still houses a lot of traditional infertility healers and the hospital being a tertiary healthcare centre receives cases that are referral in

nature. The study was carried out between January and June, 2021.

Participants

It was observed that an average of 40 patients visit the gynaecology clinic every week with 38 % of them attending for the first time each week. Most of the patients (92%) who visited the clinic were women. On this basis, every newly enrolled clinic patient was consecutively enrolled into the study. This resulted in the enrollment of 331 patients for the study. However, when the details and purpose of the study was explained to each of the selected patients, only 263 of them agreed to participate in the study. As a result of the small number, the study adopted census method for data collection. According to Lavrakas[18], a census method is the statistical attempt to list all elements in a population and measure the characteristics of these elements as they relate to the study being undertaken. Therefore, all the 263 women were selected as participants for the study having fulfilled the inclusion criteria. In other words, the census technique was adopted because the number is small and easy to manage. The inclusion criteria are the fact that each participant must have been a married woman, was of a reproductive age (15-50 years), was having infertility challenges and was seeking care at the infertility clinic of the hospital. All the men who visited the clinic as well as those women who refused consent or who were outside the age group stated above were excluded from the study. Ethical approval for the study was obtained from the Research and Ethics Committee of Alex Ekwueme Federal University Teaching Hospital, Abakaliki (AE-FUTHA).

Data collection techniques and instrument

The instrument for data collection was a self-designed structured questionnaire. The instrument was pretested four weeks before the actual study among 10 women who came for infertility treatment at the gynaecology unit of the hospital. The research instrument consisted of three sections – the demographic characteristics of the participants, their history of infertility and their history of the use of traditional methods for the treatment of infertility in the last 12 months prior to their visit to the gynaecology clinic. The participants were considered to have used

traditional methods for treatment if she had drank it, swallowed it, inhaled it, inserted or applied such substance to any part of her body. The questionnaire was administered in form of interview. In other words, each of the participants was presented with the questions in the questionnaire. And as she responds to the questions, the researchers/interviewers helped her to tick the corresponding answers on the questionnaire. This instrument administration style was used to ensure accuracy of responses and eliminate attrition. Following the guideline of StatCorp[19], the resultant data were double entered in Epidata version 3.1, cleaned and checked to ensure completeness before being transferred to Stata 12 for analysis.

Method of data analysis

The resultant data were analyzed using descriptive statistics. To determine the strength of the relationship among variables which were independently associated with the use of traditional methods of infertility treatment, univariable bivariable and multivariable logistic regression analysis were used. Therefore, variables at univariate analysis level that had P-value $\leq$ 0.2 were entered into the model of multivariate logistic regression to determine factors that were independently associated with traditional methods of infertility treatment use. Variables that had P-value $\leq$ 0.05 were taken to be statistically significant at the level of 95% confidence.

Results

Demographic characteristics of the respondents

It can be observed in table 1 that the largest number of the participants (20.2%) was within the age grouping of 26-30 years. The figures dropped for the group above 40 years of age. Only 41 participants representing 15.6% belonged to this age group. In terms of marital status, all the participants were married at one point or the other. That gives their justification for their seeking for child birth. Data have shown that majority of the respondents had primary education. However, only a small number (2.7%) had no schooling. The remaining 236 respondents representing (89.8%) have one level of education or the other. Again, since Catholic and Orthodox Churches are the

Table 1: Demographic characteristics of the respondents

Variables	Items	Frequency	Percentage (%)
Age	<20 years	44	16.7
	20 – 25 years	35	13.3
	26 -30 years	53	20.2
	31 – 35 years	48	18.3
	36 – 40 years	42	16.0
	> 40 years	41	15.6
Marital Status	Never Married	7	2.7
	Married	216	82.1
	Widowed	14	5.3
	Divorced	26	9.9
Educational Status	No Schooling	27	10.3
	Primary	123	46.8
	Secondary	71	27.0
	Tertiary	42	16.0
Religion	Catholic	115	43.7
	Orthodox	78	29.7
	Pentecostal	44	16.7
	Traditional	17	6.5
	Islam	4	1.5
	Others	5	1.9
Occupation	Housewife	16	6.1
	Farmer	72	27.4
	Civil Servant	42	16.0
	Trader	58	22.1
	Artisan	54	20.5
	Others	21	8.0
Monthly Income	< #50,000	152	57.8
	#50,000 - #100,000	72	27.4
	#100,001 - #150,000	32	12.2
	#150,001 - #200,000	6	2.3
	> #200,000	1	0.4
Husband's Family Status	The Only Child	38	14.5
	The Only Son	47	17.9
	The First Son	50	19.0
	The Last Son	40	15.2
	One of the Other Sons	88	33.5
Marriage Type	Monogamy	178	67.7
	Polygyny	71	27.0
	Surrogate	14	5.3
Marital History	Never Married	7	2.7
	First Marriage	178	67.7
	Second Marriage	73	27.8
	Third Marriage	3	1.1
	Beyond Third Marriage	2	0.8

N = 263

highest religious denomination in the area, most of the participants were either Catholic (46.8%) or they belong to Anglican, Methodist, Presbyterian or Baptist (Orthodox Churches). Majority of the women (93.9%) are engaged in various occupations. Only very few (6.1%) are full time house wives.

The result has also shown that majority of the women studied (57.8%) had a monthly income of less than #50,000. Only one person (0.4%) had a monthly income that is above #200,000. This shows

that economic strength of most of these infertile women. Data also reveal that in terms of the status of the husbands of these women, those whose husbands are the only child were 38 (14.5%) while those whose husbands are the only son were 47 (17.9%). Under this issue, the result was almost evenly distributed.

The study also investigated the type of marriage in which the participants were involved in. Results shows that majority of the participants (67.7%) were engaged in monogamous marriage

Table 2: Infertility history of the respondents

Variables	Responses	Fq	%	Mean	Std. Dev.
I have been pregnant before.	Yes	38	14.5		
	No	225	85.5	1.55	.498
I have been pregnant since my marriage.	Yes	29	11.0		
	No	234	89.0	1.51	.501
I have given birth to a baby before.	Yes	9	3.4		
	No	254	96.6	1.54	.499
Duration of Marriage	<2years	47	17.9		
	2 -4 years	62	23.6		
	5-7years	55	20.9		
	8-10years	40	15.2		
	>10years	59	22.4	3.01	1.417
Duration of Infertility	<2years	85	32.3		
	2-4years	121	46.0		
	5-7years	31	11.8		
	8-10years	20	7.6		
	>10years	6	2.3	2.95	1.421
Duration between Mother's Marriage and first child birth.	<2years	89	33.8		
	2-4years	106	40.3		
	5-7years	36	13.7		
	8-10years	21	8.0		
	>10years	11	4.2	3.11	1.402
My father has childless wife/wives.	Yes	48	18.3		
	No	215	81.7	1.45	.498

N = 263

Table 3: Prevalence of the use traditional methods (TMs) of treatment

Variables	Response	Fq	%	Mean	Std. Dev.
Used TMs to treat other illnesses	Yes	213	81.0		
	No	50	19.0	1.55	.498
Used TMs to treat infertility	Yes	251	95.4		
	No	12	4.6	1.54	.499
Point of using TMIT	Never used it		12	4.6	
	Before visiting clinic		81	30.8	
	While visiting clinic		73	27.8	
	After earlier clinic visit	97	36.9	2.67	1.099
Duration of TMIT	Never used it	12	4.6		
	<2years	62	23.6		
	2-4years	68	25.9		
	5-7years	51	19.4		
	8-10years	47	17.9		
	>10years	23	8.7	3.09	1.421

N = 263

while 71 (27%) participants were involved in polygynous marriage. Those who were involved in woman to woman (surrogate marriage) were only 14 (5.3%).

Relationship between demographic characteristics and the use of traditional methods of infertility treatment

In all, five hypotheses were tested to determine the extent of the relationship between key variables and the use of traditional methods of infertility treatment by women attending infertility clinic. For the first hypothesis, which states that there is no significant relationship between demographic characteristics of women attending infertility clinic and their use of traditional medicine, the result shows that P-value for age is 0.861, marital status is 0.661, educational status is 0.485, religion is 0.477, occupation is 0.784 and monthly income is 0.817. The level of significance has earlier been put at ≤ 0.05. This reveals that P-value for all the

variables is greater than 0.05 and as such we accept the alternate hypothesis that there is significant relationship between all the demographic characteristics and the use of traditional medicine by women attending infertility clinic in the study area.

For the second hypothesis that, there is no significant relationship between duration of infertility and the use of traditional medicine by women attending infertility clinic, the result indicates that P-value is 0.819, which is greater than the 0.05 level of significance. As a result, there is significant relationship between duration of infertility and the use of traditional medicine. Similarly, hypothesis three which states that there is no significant relationship between type of marriage and the use of traditional medicine by women attending infertility clinic was tested. The result reveals that P-value is 0.042. Therefore, there is no significant relationship between type of marriage and the use of traditional medicine by women attending infertility clinic. The fourth hypothesis states that there is no significant relationship between extended family pressure and use of traditional medicine by women attending infertility clinic. The result indicates that P-value is 0.821. This value is greater than 0.05 and as such we accept that there is a significant relationship between pressure from extended family and the use of traditional medicine by women attending infertility clinics. The last hypothesis states that the husband's family status is not significantly related to the use of traditional medicine by women attending infertility clinic. The test result shows that P-value (0.043) is less than 0.05. As a result, we agree that there is no significant relationship between the family status of the husbands of women attending infertility clinic and their use of TM. (See Table 4)

Infertility history of the respondents

One important factor that has influence on patients' treatment seeking behavior is the history of the ailment. As a result, the study attempted to find out the respondents' infertility history. The result reveals that most of the respondents (85.5%) have never been pregnant in their lives. Similarly, those who have not been pregnant since they got married were 89.0%. Data also showed that out of the 263 participants in the study, 254 (96.6%) have never given birth to a baby in their life time. On the issue

of duration of marriage, the mean is 3.01 while the standard deviation is 1,417. Majority of the respondents (82.1%) were married for more than two years.

In the case of duration of infertility, the result revealed that majority (78.3%) of the participants had been infertile for < 2 years to 4 years. The study also discovered that majority (106 representing 40.3%) of the respondents stated that their mothers spent between 2 and 4 years before having their first child. Those that their mothers spent more than 10 years before giving birth to their first babies were only 11 (4.2%). Similarly, the result further shows that most of the respondents (215 representing 81.7%) said that their fathers did not have any childless wife/wives. This gives a mean of 1.45 and standard deviation of 0.498. For such respondents, their infertility may not be genetically attached.

Prevalence of the use of traditional methods of infertility treatment among the infertile women

The study investigated the extent to which infertile women use traditional methods of infertility treatment. Analysis revealed the mean scores for each of the 4 items/determinants of the infertile women use of traditional methods of infertility treatment (TMIT). On a five-point scale, the mean for used traditional methods (TMs) to treat other illnesses is 1.55 (Std. = .498), used traditional methods to treat infertility is 1.54 (Std. = .499), point of using traditional methods for infertility treatment is 2.67 (Std. = 1.099) and duration of the use traditional methods for infertility treatment is 3.09 (Std. = 1.421). As can be seen in table 3, the result shows that 81% of the participants have used traditional methods for treatment of other illnesses while 95.4% of them have used traditional methods for treatment of infertility. Only 4.6% of the participants have never used traditional methods of treatment. However, majority (36.9%) of the respondents began using TMIT after their earlier visit to the clinic. The result also shows that some infertile women (27.8%) use TMIT while still visiting the clinic. Similarly, many of the respondents (25.9%) have used TMIT for between 2-4 years. The result indicates that only 19% of the respondents have never used traditional methods (TMs) to treat other illnesses while 95.4% of them have used TMs to treat infertility.

Table 4: Determinants of the use of traditional medicine for infertility treatment

Determinants	Responses	Fq	%	Mean	Std. Dev.
Age	Very Great Extent	105	41.8		
	Great Extent	82	32.7		
	No Extent	16	6.4		
	Little Extent	41	16.3		
	Very Little Extent	7	2.8	2.06	1.179
Duration of Marriage	Very Great Extent	62	24.7		
	Great Extent	97	38.7		
	No Extent	11	4.4		
	Little Extent	40	15.9		
	Very Little Extent	41	16.3	2.61	1.428
Polygynous Marriage	Very Great Extent	31	12.4		
	Great Extent	22	8.7		
	No Extent	190	75.7		
	Little Extent	6	2.4		
	Very Little Extent	2	0.8	2.71	.743
Hospital is far from my residence	Very Great Extent	112	44.6		
	Great Extent	94	37.5		
	No Extent	3	1.2		
	Little Extent	39	15.5		
	Very Little Extent	3	1.2	1.91	1.088
My husband's relatives' pressure	Very Great Extent	81	32.3		
	Great Extent	128	51.0		
	No Extent	2	0.8		
	Little Extent	31	12.4		
	Very Little Extent	9	3.6	2.04	1.073
Traditional medical treatment is cheaper					
	Very Great Extent	86	34.3		
	Great Extent	121	48.2		
	No Extent	7	2.8		
	Little Extent	26	10.4		
	Very Little Extent	11	4.4	2.12	1.167
My husband is an only son	Very Great Extent	37	14.7		
	Great Extent	8	3.2		
	No Extent	204	81.3		
	Little Extent	1	0.4		
	Very Little Extent	1	0.4	2.69	.738
Other health issues	Very Great Extent	33	13.2		
	Great Extent	21	8.4		
	No Extent	126	50.2		
	Little Extent	25	10.0		
	Very Little Extent	46	18.3	3.12	1.197
Earlier hospital treatment failed	Very Great Extent	79	31.5		
	Great Extent	91	36.3		
	No Extent	14	5.6		
	Little Extent	40	15.9		
	Very Little Extent 27	10.8		2.38	1.355

N = 251

Determinants of the use of traditional medicine for infertility treatment

On the issue of the determinants of the use of Traditional Medicine (TM) for the treatment of infertility, data analysis revealed the mean scores on 9 items/determinants of the use of traditional medicine for treatment of infertility. On a five-point scale, the mean score for age is 2.06 (Std. = 1.179), duration of marriage is 2.61 (Std. = 1.428), marriage type is 2.71 (Std. = .743), hospital is far is 1.91 (Std. = 1.088), pressure from husbands' relatives is 2.04 (Std. = 1.073), traditional medical treatment is cheaper is 2.12 (Std. = 1.167), my husband is an only son is 2.69 (Std. = .738), other health issues is 3.12 (Std. = 1.197) and earlier hospital treatment failed is 2.38 (Std. = 1.355). In other words, majority of the respondents (187 or

74.5%) believed that age of the infertile woman is the main factor that pushes her to seek for solution from any source particularly by using traditional methods of treatment. This result indicates that the age of the infertile woman, her duration of marriage, proximity of the hospital, pressure from husband's relatives, low cost of traditional treatment and failure of hospital treatment are the major factors that push infertile women into using traditional methods for the treatment of infertility. However, it was found that polygyny was never a factor that motivates infertile women to use TMIT (see Table 4).

Discussion

The findings revealed that women attending infertility clinic have used traditional methods of infertility treatment (TMIT) to great extent. It was found that 95.4% of these women (mostly less educated with low income) have used TMIT for the management of infertility in the past 12 months prior to the study while 81% have used traditional methods to treat other diseases. This result reinforces the findings of Hailu et al.[20] that about 80% of the population of Ethiopia use traditional methods (TMs) to treat illnesses. Similarly, the result supports the views of Jarada and Zaid[21] that the highest frequency of citation of herbal remedies used by females for the treatment of infertility was 98.04% for the pollen grains from *Ceretonia Siliqua*. The study also aligns with the position of James et al.[22] that the use of herbal medicine among women seeking care for infertility is common. However, the current result is higher than results of earlier studies in Uganda (76.2%) and Nigeria (69%) about traditional medicine use by women seeking infertility care [4,23]. However, all the studies point to the fact that infertile women use a lot of traditional medicine (TM) for the treatment of infertility.

The finding shows that there is a significant influence of demographic characteristics towards the use of traditional methods of infertility treatment (TMIT) by women attending infertility clinic. This means that when a woman gets above 35 years of age without giving birth, her level of desperation to have a child increases. Therefore, the older a woman is, the more chances there is, that she will resort to the use of TM for treatment of infertility. As such, age has influence on the women's use of TMIT. This result supports the

view of Kaadaaga et al.[4] when they posited that the use of traditional medicine was associated with the patients' demographic profile such as age. Similarly, the marital status of infertile women influences the use of traditional methods of infertility treatment. The result shows that majority of those who used TMIT were married as at the time of the study. And the test of hypothesis has reported a P-value of 0.661 which established that there is a strong relationship between marital status and use of TMIT. Educational status is shown to have significant influence on the women's use of TMIT. It was observed that women with lesser educational qualification use TMIT more than those with higher education. Our finding agrees with the study of Ghazeeri et al.[24] but it is in contrast with the study of Coulson & Jenkins[25] in which less educated women were less likely to use TMIT. In our study, less educated women use TMIT more because they are usually influenced by recommendations of their peers and relatives other than the media. Religion and income status of the women were found to greatly influence the women's use of TMIT. All participants who belong to traditional religion use TMIT while most of the women in Pentecostal religious set do not often use TMIT. It was also found that the lesser a woman's income, the more chances that she will use TMIT. This is because of the relatively low cost of TMIT when compared to orthodox ones. The result is in line with the views Hughes et al., Gari et al.[26,27] who pointed out that the reason for the popularity and frequent use of traditional methods of treatment is its low cost.

Essentially, the study revealed that the duration of infertility has a strong influence on the infertile woman's use of traditional medicine. The result indicates that the $X^2 = 1.545$ and P-value = 0.819 when duration of infertile was cross matched with the use of TMIT. This could be as a result of the knowledge that women on getting to menopause may not be able to conceive again. This knowledge creates fear and discomfort for women who could not bear children after some years into their marriage. Secondly, the rate of stigmatization against the infertile woman increases with the increase in her year of marriage. This supports the view of Nwosu and Onwe[7] when they pointed out that childless women are strongly stigmatized in Nigeria. Therefore, duration of infertility is major determinant for the use of traditional methods of infertility treatment. Similarly, the result also aligns with the views of Hailu et al.[20] that duration of

illness was a major factor that is significantly associated with the use of traditional medicine. That is why in most medical cases, when treatment defies all known orthodox medical therapy, people resort to traditional medical therapy as time elapses[12] because any treatment achieved early reduces chances of complications and deformations.

The study investigated the extent to which the type of marriage they women engage in determines their use of TMIT. The result shows that 75.7% of the participants said that marriage type does not determine infertile women's use of traditional methods of infertility treatment (TMIT). This is supported by the report of the regression analysis.

The study also looked at the extent extended family determines the use of TMIT by women attending infertility clinic. The result revealed that 83.3% of the participants agreed that pressure from the husbands' relatives is a major determinant for their use of traditional methods of infertility treatment (table 4). This shows that there a significant relationship between pressure from extend family and the use of TMIT. This is in line with the view of Nwosu and Onwe[7] when the stated that the greatest stigmatization against infertile women comes from the extended family members. To avoid this problem from husband's relatives, the infertile women seek for treatment from every available source especially traditional methods of infertility treatment. Similarly, the result aligns with views of James *et al.*[22] that family members are major influencers in the decision of the women to use traditional medicine (TM). As a result, the decision of where to go for treatment of infertility is often a family rather than an individual affair[28].

The study revealed that husband's status (position) in his father's family is not significantly related to the use of traditional methods for infertility treatment. The result shows that 81.3% of the respondents agreed that the position of their husbands as first, second, third, last or even only son/child does not determine their use of TMIT. However, it was found that the position of the husband only becomes a major issue if the couple is seeking for a male child. In such cases, women whose husbands are the only son are usually more desperate than the others. Again, this could be as a result of pressure from husband's relatives[7].

The study has also revealed that other major determinants of the use of TMIT by infertile

women are the income of the women involved, the proximity of the traditional healers and cheap cost of traditional medical treatment. It is clear that the lower the income of the woman, the more she uses TMIT. This is because TMIT is believed to be cheaper and affordable by the women. The result supports the conclusion of Hailu *et al.*[20] that women who had higher income were less likely to use traditional medicine (TM). The result also aligns with the report of Yewhalas[29] that in Jimma area of Ethiopia most people went for cheap healthcare services such as TM. The result supports the ideas of Hughes *et al.*, Gari *et al*, and James *et al.*[26,27,22] that the reasons for the popularity and frequent use of TM is its low cost and accessibility. Therefore, among African communities, the use of TM was closely associated with low income status. However, the high income people also use TM when they could not get satisfactory result from the orthodox medicine (OM). In terms of proximity, it was found that wherever the hospital is near to the community, the women used OM instead of TM. But where the hospital is far or not available, the women resort to the use of TM for infertility treatment.

It was also revealed that the infertile women who attend infertility clinics hardly disclose their use of TMIT to the healthcare providers at the clinics. This discovery aligns with the reports of Sembuya, Kaadaaga *et al*. and James *et al.*[30,4,22] They noted that the major reason for nondisclosure of traditional medicine use was because the healthcare providers never asked their patients for such information. Therefore, the infertile women felt that it is unnecessary to divulge such exclusive information. In addition, the women were afraid of divulging such information for fear that the healthcare providers will view them negatively and that may impede on the kind of treatment they may receive from the healthcare providers.

Conclusion

Despite the severe consequences associated with traditional methods of infertility treatment, many infertile women still patronize them. This actually has implications for clinical assessment, diagnosis and treatment. Similarly, one of the reasons why most cases of infertility could not be effectively treated is because most of the infertile women hardly disclose their use of traditional methods of infertility treatment (TMIT) at the clinics. In fact,

some of the drugs earlier consumed by patients under traditional treatment system do hinder the efficacy of clinical drugs. Therefore, this is an obstacle to proper treatment of infertility cases in hospitals. In the same vein, since the major factors that influence infertile women seeking remedies under traditional methods of infertility treatment include duration of infertility and pressure from the husbands' relatives, we conclude that the longer the duration of the infertility for women, the closer such women get to menopause, and this pushes them to seek for solution from any source particularly from traditional healers. Again, demographic characteristics of infertile women influence their use of traditional medicine and this is a critical factor to consider whenever attending to infertility cases in the clinics. This understanding will help clinicians to determine the extent their patients have used of TMIT. This will enable them to manage each case with higher degree of success. Similarly, the absence of functional hospitals/clinics at community levels exposes infertile women to the use of TMIT because traditional healers are always near, available and their charges are affordable. Therefore, healthcare providers should always enquire from patients about past or current use of traditional medicine. This may help in counseling/educating patients about health consequences of using traditional methods of infertility treatment (TMIT) and this may reduce delays of patients in seeking for appropriate therapeutic care. Again, there should be strong collaboration between healthcare professionals and traditional healers in order to identify and isolate common herbal medicines used for infertility treatment, their potential benefits and dangers.

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