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ASSISTED REPRODUCTION TECHNOLOGIES

Knowledge and attitude of reproductive-aged women towards planned oocyte cryopreservation in the United Arab Emirates

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Abstract

Background Delayed conception is associated with a decline in oocyte number and quality. Oocyte cryopreservation techniques are used for medical or non-medical (elective) reasons. We aim to assess the knowledge and attitudes towards planned oocyte cryopreservation (POC) among reproductive-aged women in the United Arab Emirates (UAE) and to investigate the factors interfering with their decisions.

Methods A cross-sectional study on 422 women (18–38 years) living in the UAE, using an online questionnaire with three sections: sociodemographic, knowledge, and attitudes towards POC.

Results 91.2% of participants have heard of POC, 84.1% hold a bachelor's degree or higher, 65.4% with medical background, 54.3% employed, and 79.2% live in Sharjah and Dubai. Consideration of POC was significantly associated with age ($p=0.011$), employment ($p=0.002$), the Emirates they live ($p<0.001$), and if they have heard of POC ($p=0.036$). Mean knowledge score was 44.44%, which was significantly higher among those considering POC (49.66% vs. 40.55%), and social media was their main source of information. About 57% will not consider POC, mainly due to cost, cultural issues, and safety. Determinants of knowledge score were marital status ($B=0.44$; 95%CI: 0.09–0.79; p value $=0.014$) and education level ($B=0.35$; 95%CI: 0.13–0.58; p value $=0.002$), and after adjustment, only the education level remained significantly associated with knowledge score ($B=0.24$; 95%CI: 0.01–0.47; p value $=0.042$).

Conclusion Despite many participants being motivated to undergo POC, majority had poor knowledge, and cost was the main barrier. The main determinant of the knowledge score was education level. Awareness among couples of consequences of delaying childbearing and comprehensive information from medical practitioners are highly needed.

Keywords Elective oocyte cryopreservation · Fertility preservation · Knowledge · Awareness · Reproductive-aged women

Introduction

Delayed conception is associated with a decline in oocyte number, quality, and an increase in aneuploidy rate among aging oocytes which can lead to infertility [1]. Different factors contribute to delayed childbearing and could be attributed to medical reasons (e.g., oncology treatment chemo/radiotherapy, tumor of the ovary, and endometriosis) and non-medical (elective) reasons (e.g., still engaged in studying, career advancement, and/or could not find a suitable partner) [2].

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Oocyte cryopreservation, also known as egg freezing, is one of the most advanced techniques for women's egg preservation [3]. Initially offered for medical reasons, nowadays, planned oocyte cryopreservation (POC) is becoming more popular among women [4–6]. A review conducted between 2019 and 2020 in the USA on women's attitudes towards POC showed that there was significant support for it, with an increase in the number of women who are delaying childbearing [7]. Similar studies conducted in the UK, Denmark, and Singapore have also reported significant support for POC [8, 9]. In the USA, women aged 35 to 44 years, having children for the first time, have increased more than fivefold, from 1970 to 2012 [10].

International studies (Australia, Italy, the UK, and Canada) have been done to date on women's intention to freeze and revealed that the primary factors that would influence their decision to accept the procedure were financial costs, risks to themselves and their offspring, and success rates. [8, 9, 11, 12]. In Lebanon, parents of female adolescents diagnosed with cancer, oncologists, and clinical practitioners reported a significant need for educational programs and awareness campaigns about egg preservation [13]. In the United Arab Emirates (UAE), to our knowledge, no study has investigated the acceptance and knowledge of women on these matters. Hence, we aimed to assess the knowledge and attitudes towards POC among reproductive-aged women in the UAE and to investigate the factors interfering with their decisions.

Methods

This cross-sectional study was conducted from February to May 2022, in which 422 women were recruited. The inclusion criteria were women residing in the UAE, aged 18–38 years, either Arabic or English speaking who were voluntarily willing to complete the online questionnaire. The age range of the participants was selected based on the Fertility Clinic and National Summary Report 2019 of the Centers for Disease Control and Prevention [14] and other authors [15] which indicate that the most successful assisted reproductive technology (ART) pregnancy when the women are in their 20 s and 30 s and dramatically reduced when they reach 38–40 years. The questionnaire was adopted from the Canadian study [9] and was translated into Arabic by three bilingual speakers who were experts in the field. The questionnaire was then back-translated to ensure the reliability of the translation. The experts checked the questions for clarity and whether the questions met the objectives of the study. Then, the questionnaire was piloted on ten independent participants who were not part of the study, and their feedback was assessed, and minor changes were recommended and made. Then, the bilingual (Arabic and English) web-based questionnaire was sent randomly to participants, who were asked to share it with friends and family members, via social media platforms and emails. The questionnaire comprised three sections: (1) sociodemographic; (2) knowledge about POC; and (3) attitudes toward POC. Participants' consent was obtained before starting the questionnaire. The study protocol was approved by the Research and Ethics Committee at the University of Sharjah, Sharjah, UAE (REC-22–01-13–03).

Data were analyzed using Statistical Package for the Social Sciences software, version 25.0 (SPSS, Chicago, IL). Categorical variables were expressed as frequencies and percentages, and the Chi-square test was used to explore the association between the categorical variables. Linear regression analysis was applied to find determinants of the knowledge score. Statistical significance levels were set at $p < 0.05$.

Results

From February to May 2022, 422 women completed the online questionnaire. Table 1 shows the association of considering POC with sociodemographic characteristics. Most of the participants (46.2%) are aged between 18 and 25 years, and about 84% hold a bachelor's degree or higher. Two-thirds (65.4%) have a medical education background, and around half (54.3%) are employed. Three-fifths are single, and four-fifths live in Sharjah and Dubai, (61.6% and 79.2%, respectively). Participants' consideration of POC was significantly associated with age ($p = 0.011$), employment status ($p = 0.002$), in which Emirates they live ($p < 0.001$), and if they have heard about POC ($p = 0.036$). Concerning age, 40% of women who will consider POC belong to the age group of 31–38 years, whereas 51.5% of those who will not consider are between 18 and 25 years. Nearly 63% of women who will consider POC are currently working, and 52.3% of those who will not consider are unemployed. About 55% of those who will consider POC live in Dubai, while 41.8% of those who will not consider are living in Sharjah. The majority of participants who will consider POC (94.5%) have heard of it already compared to 88.7% of those who will not consider it ($p = 0.036$). In the whole study population, the mean knowledge score was 44.44 ± 20.11 out of 100, and those who will consider POC have significantly higher scores compared to those who will not consider it (49.66 ± 19.22 vs. 40.55 ± 19.88, $p < 0.001$).

Table 2 illustrates the association of considering POC with the participants' knowledge. The main source of information was social media/television (53.8%), and about half (51.7%) of the participants reported that the optimal age for a woman wanting to go for POC is 30–38 years. Around two-fifths (38.2%) said that POC requires the injection of hormones, similar to in vitro

Table 1 Association of considering planned oocyte cryopreservation (POC) with sociodemographic characteristics

	Total ($n=422$)	Would you consider POC?		p value
		No ($n=239$)	Yes ($n=182$)	
Age (years)				
18–25	195 (46.2)	123 (51.5)	72 (39.3)	0.011
26–30	64 (15.2)	27 (11.3)	37 (20.2)	
31–38	163 (38.6)	89 (37.2)	74 (40.4)	
Education				
No degree	2 (0.5)	1 (0.4)	1 (0.5)	0.290
High school	39 (9.2)	24 (10)	15 (8.2)	
College	26 (6.2)	16 (6.7)	10 (5.5)	
Bachelor at university	284 (67.3)	166 (69.5)	118 (64.5)	
Master/Ph.D. degree	71 (16.8)	32 (13.4)	39 (21.3)	
Education field				
Medical	276 (65.4)	160 (66.9)	116 (63.4)	0.440
Non-medical field	146 (34.6)	79 (33.1)	67 (36.6)	
Employment status				
No	193 (45.7)	125 (52.3)	68 (37.2)	0.002
Yes	229 (54.3)	114 (47.7)	115 (62.8)	
Marital status				
Single	260 (61.6)	142 (59.4)	118 (64.5)	0.140
Married	153 (36.3)	94 (39.3)	59 (32.2)	
Divorced	9 (2.1)	3 (1.3)	6 (3.3)	
Emirates (location)				
Abu Dhabi	43 (10.2)	29 (12.1)	14 (7.7)	<0.001
Dubai	189 (44.8)	89 (37.2)	100 (54.6)	
Sharjah	145 (34.4)	100 (41.8)	45 (24.6)	
Other emirates	45 (10.7)	21 (8.8)	24 (13.1)	
Have you ever heard of POC?				
No	37 (8.8)	27 (11.3)	10 (5.5)	0.036
Yes	385 (91.2)	212 (88.7)	173 (94.5)	

fertilization (IVF), to stimulate egg production. Almost half of the participants (45%) do not think that one cycle of treatment is usually sufficient to retrieve enough oocytes for cryopreservation, and 37.2% were clueless. The majority (71.8%) mentioned that a woman can successfully and safely use eggs frozen when she was still fertile, to try to become pregnant in her 40 s and 50 s, and only one-quarter (25.3%) thought that most of the eggs will survive the thawing process and get fertilized. Almost half of participants reported that POC before the age of 35 significantly prolongs a woman's fertility (48.8%). More than half (52.9%) of participants think that the POC process does not pose risks to a woman's health, and 78.2% thought that a 40-year-old woman has a significant decrease in the ability to get pregnant. Participants' consideration of POC was significantly associated with the source of information ($p<0.001$), the belief that frozen eggs will help women get pregnant in their 40 s and 50 s ($p<0.001$), the belief that fertility is prolonged if undergoing oocyte cryopreservation before the age of 35 ($p=0.003$), and whether the process of oocyte cryopreservation poses risks to a woman's health ($p<0.001$).

Table 3 illustrates the association of considering oocyte cryopreservation based on participants' attitudes. 43.4% of women reported that they will consider POC, with 28.4% said that they will consider it if they had not yet found a suitable husband with whom they could have children, and 32.2% will not consider it no matter what. About 45% will consider POC by the age of 30–38 years, while 26.3% will never consider it. The reasons why they do not agree with POC were that it is expensive (15.7%), cultural issues related to disruption of virginity caused by the procedure (11.4%), and few physicians in the region are specialized in this field (8.5%) and that it is not safe (9.2%). Approximately two-thirds (67.8%) thought a woman in her 20 s or 30 s should consider POC to preserve her fertility if she is not ready to have children. The majority (77.3%) reported that the Ministry of Health or health insurance companies should cover the costs of POC and that physicians should routinely provide women of childbearing age with information about POC

Table 2 Association of considering planned oocyte cryopreservation (POC) with knowledge

	Total ($n=422$)	Would you consider POC?		p value
		No (239)	Yes (182)	
What was your source of information?				
NA	33 (7.8)	27 (11.3)	6 (3.3)	< 0.001
Friends	69 (16.4)	36 (15.1)	33 (18)	
School/university	61 (14.5)	34 (14.2)	27 (14.8)	
Social media/television	227 (53.8)	135 (56.5)	92 (50.3)	
IVF treatment doctor*	32 (7.5)	7 (2.9)	25 (13.7)	
What is the optimal age for a woman wanting to POC?				
< 30 years*	138 (32.7)	81 (33.9)	57 (41.3)	0.40
30–38 years	218 (51.7)	117 (49.0)	101 (55.2)	
> 38 years	66 (15.6)	41 (17.3)	25 (13.7)	
Does POC require the injection of hormones, similar to IVF, to stimulate egg production?				
No	46 (10.9)	26 (10.9)	20 (10.9)	0.55
Yes*	161 (38.2)	86 (36)	75 (41)	
I do not know	215 (50.9)	127 (53.1)	88 (48.1)	
Is one cycle of treatment usually sufficient to retrieve enough oocytes for cryopreservation?				
No*	190 (45.0)	107 (44.8)	83 (45.4)	0.975
Yes	75 (17.8)	42 (17.6)	33 (18)	
I do not know	157 (37.2)	90 (37.7)	67 (36.6)	
Can a woman successfully and safely use frozen eggs when she was still fertile, to try to become pregnant in her 40 s and 50 s?				
No	33 (7.8)	27 (11.3)	6 (3.3)	< 0.001
Yes*	303 (71.8)	153 (64)	150 (82)	
I do not know	86 (20.4)	59 (24.7)	27 (14.8)	
Do you think that most of the eggs will survive the thawing process and be able to be fertilized?				
No	216 (51.2)	127 (53.1)	89 (48.6)	0.441
Yes*	107 (25.3)	55 (23)	52 (28.4)	
I do not know	99 (23.5)	57 (23.8)	42 (23)	
Can POC before the age of 35 significantly prolongs a woman's fertility?				
No	64 (15.2)	46 (19.2)	18 (9.8)	0.003
Yes*	206 (48.8)	101 (42.3)	105 (57.4)	
I do not know	152 (36.0)	92 (38.5)	60 (32.8)	
Can the POC process pose risks to a woman's health?				
No*	223 (52.9)	104 (43.5)	119 (65.4)	< 0.001
Yes	68 (16.1)	53 (22.2)	14 (7.7)	
I do not know	131 (31.0)	82 (34.3)	49 (26.9)	
Do you think a 40-year-old woman has a significant decrease in the ability to get pregnant?				
No	62 (14.7)	40 (16.7)	22 (12)	0.168
Yes*	330 (78.2)	179 (74.9)	151 (82.5)	
I do not know	30 (7.1)	20 (8.4)	10 (5.5)	
Knowledge score† (total is 9; 0 = 0% and 9 = 100%)	44.44 ± 20.11	40.55 ± 19.88	49.66 ± 19.22	< 0.001

*Good knowledge score

†Using independent t-test to compare the knowledge score of those who will or will not consider POC

(83.2%). Nearly three-quarters (73.9%) preferred working for a company with a benefits package that includes the cost of POC. Participants also reported that they will consider POC once certain about possible health risks to a child conceived using previously frozen eggs (37.6%); the risks to their health or future fertility (21.1%); religious, cultural, and ethical views (19.7%); the success rate of achieving a viable pregnancy (12.3%); and the cost of the procedure (9.3%). Considering POC was significantly associated with age ($p < 0.001$), readiness to have children in her 20 s or

Table 3 Association of considering planned oocyte cryopreservation (POC) with the attitudes

	Total ($n=422$)	Would you consider freezing your eggs electively?		p value
		No (239)	Yes (182)	
I would consider freezing my oocytes if				
I do not have economic stability yet	28 (6.6)	13 (5.4)	15 (8.2)	< 0.001
I had not yet found a suitable husband with whom I could have children	120 (28.4)	42 (17.6)	78 (42.6)	
I have work commitments and professional opportunities	66 (15.6)	19 (7.9)	47 (25.7)	
I was not ready for motherhood	57 (13.5)	27 (11.3)	30 (16.4)	
I would not consider it no matter what	136 (32.2)	128 (53.6)	8 (4.4)	
My husband was not ready to have children	15 (3.7)	10 (4.2)	5 (2.7)	
At what age would you consider POC?				
< 30	67 (15.9)	31 (13)	36 (19.7)	< 0.001
30–38	187 (44.3)	72 (30.1)	115 (62.8)	
> 38	57 (13.5)	28 (11.7)	29 (15.8)	
Never	111 (26.3)	108 (45.2)	3 (1.6)	
If you do not agree with POC, what is your reason?				
NA	233 (55.2)	126 (52.7)	107 (58.5)	< 0.001
Cultural issues related to the disruption of virginity caused by the procedure	48 (11.4)	26 (10.9)	22 (12)	
Few physicians in the region are Specialized in this field	36 (8.5)	23 (9.6)	13 (7.1)	
It is not safe	39 (9.2)	36 (15.1)	3 (1.6)	
It is expensive	66 (15.7)	28 (11.7)	38 (20.8)	
Do you think a woman in her 20 s or 30 s should consider POC to preserve her fertility if she is not ready to have children?				
No	136 (32.2)	106 (44.4)	30 (16.4)	< 0.001
Yes	286 (67.8)	133 (55.6)	153(83.6)	
Do you think that the costs of POC should be covered by the Ministry of Health or health insurance?				
No	96 (22.7)	64 (26.8)	32 (17.5)	0.024
Yes	326 (77.3)	175(73.2)	151 (82.5)	
As a part of regular healthcare visits, do you think that physicians should routinely provide women of childbearing age with information about POC?				
No	71 (16.8)	57 (23.8)	14 (7.7)	< 0.001
Yes	351 (83.2)	182 (76.2)	169 (92.3)	
Would you prefer working for a company with a benefits package that includes the cost of POC?				
No	110 (26.1)	87 (36.4)	23 (12.6)	< 0.001
Yes	312 (73.9)	152 (63.6)	160 (87.4)	
If you were to consider POC, which of these would you need to be certain of before you went ahead?				
Cost of the procedure	39 (9.3)	18 (7.6)	19 (10.4)	0.090
Current success rates of achieving a viable pregnancy	52 (12.3)	25 (10.5)	27 (14.8)	
Possible health risks to a child conceived using previously cryopreserved oocytes	159 (37.6)	91 (38.2)	68 (37.4)	
Religious, cultural, and ethical views	83 (19.7)	57 (23.9)	26 (14.3)	
Risks to my health or future fertility	89 (21.1)	47 (19.7)	42 (23.1)	

30 s ($p<0.001$), the cost of the procedure ($p<0.001$), and whether the cost is covered by the ministry of health/health insurance ($p=0.02$) or by their employer ($p<0.001$).

Table 4 reports the determinants of the knowledge score. Model (1) showed significant positive relationships between knowledge score and marital status and education level ($B=0.44$; 95%CI: 0.09–0.79; p value $=0.014$ and $B=0.35$; 95%CI: 0.13–0.58; p value $=0.002$, respectively). It indicates that those who are married and had higher education level are having higher knowledge score. On the other hand, when the analysis adjusted for age, educational field, heard of POC, and location of the participants (from which emirate), the knowledge score was no longer associated with marital status. However, it demonstrated positive relationships with education level ($B=0.24$; 95%CI: 0.01–0.47; p value $=0.042$), and if the participants have heard of POC ($B=1.21$; 95%CI: 0.62–1.80; p value <0.001), and a significant negative relationship with education field ($B=-0.41$;

Table 4 Linear regression analysis to find the determinants of the knowledge score

Independent variable	Model (1)				Model (2)			
	B	*p* value	95.0%CI		*B*	*p* value	95.0%CI	
			Lower bound	Upper bound			Lower bound	Upper bound
Marital status	0.44	0.014	0.09	0.79	0.25	0.23	−0.16	0.67
Employment status	0.11	0.587	−0.28	0.49	−0.02	0.93	−0.46	0.42
Education*	0.35	0.002	0.13	0.58	0.24	0.042	0.01	0.47
Age	–	–	–	–	0.29	0.050	0.00	0.58
Education field**	–	–	–	–	−0.41	0.031	−0.78	−0.04
Have you ever heard of POC?§	–	–	–	–	1.21	< 0.001	0.62	1.80
Emirates (location)	–	–	–	–	0.04	0.73	−0.18	0.26

*Higher degree means a higher score

**Education field: medical = 1 and non-medical = 2

§No = 0 and yes = 1

95%CI: −0.78 to −0.04; *p* value = 0.031). These indicate that those with higher education level, from the medical field, and if they have heard of POC are having higher knowledge score, and it seems that education level is the best determinant of the knowledge score.

Discussion

To our knowledge, this is the first study to examine the knowledge and attitudes of reproductive-aged women living in the UAE on POC. Overall, participants had low knowledge score about POC. A clear profile of "potential freezers" emerged from our study: women were mostly aged between 31 and 38 years old, have heard about this technology before, were employed (which gives them economic independence), and were from the Emirate of Dubai (the business city which is one of the seven emirates).

In our study, the vast majority (91%) of women have already heard about oocyte cryopreservation. A study conducted by Lallement et al. comparing British and Danish women, and another study by Ikhena-Abel et al. on medical students at Northwestern University in Chicago reported similar findings (89%) [16]. In line with previous studies, social media platforms were the main source of information reported by more than half of our participants [17]. This emphasizes the importance of these platforms as awareness tools to spread knowledge about oocyte cryopreservation technology as they also can lead to incorrect portrayals of age-related fertility issues. It is worth mentioning that only 7.5% of women in our study have heard of POC from their doctors; this finding is similar to Tozzo et al. study (2019), where only 1% received their information from a medical practitioner. This raises concerns about the accuracy of women's knowledge on this matter and highlights the need for obstetricians to discuss it with their patients during routine examinations.

Our participants had poor knowledge of the oocyte cryopreservation procedure, success rate, and risks; as demonstrated by poor response to the following: knowing the number of hormonal injections needed, number of cycles, and whether frozen eggs survive the thawing process, while almost half responded by "I don't know." This highlights a lack of knowledge of most respondents toward these questions, specifically that other answers hovered around uncertainty or a weak guess (yes or no) in one direction or another, and high points the need for awareness and education on fertility preservation and infertility treatments. Our results also showed that knowledge of oocyte cryopreservation was positively associated (marginally significant; $p = 0.05$) with the age of the participants. This can be likely explained by the fact that older women tend to be more concerned about their fertility compared to younger women. In addition, the education level and education field were important predictors of participants' knowledge. The education field had a significant inverse relationship with the knowledge score, meaning that being highly educated and working in the medical field increased their knowledge of oocyte cryopreservation procedures.

In the current study, oocyte cryopreservation for non-medical reasons was considered acceptable and supported by 43% of participants. This percentage is higher than that reported by Danish and English women (19%) [8], Italians (19.5%) [12], Belgians (31.5%) [18], and Americans (21.6%) [19], but lower compared to the Singaporeans (48.9%) [20] and Canadian women (66%) [9]. Our study showed that the most important reasons for POC were the lack of a suitable partner (42.6%) and followed by career advancement (25.7%). This interestingly highlights that in the studied community, the "emotional aspect" of having a suitable

partner, is still the greater contributor to POC decisions and makes clinicians refrain from blaming the responsibility for delayed childbearing on women alone. In fact, studies suggest that the main reason women delay childhood is having a partner unwilling to commit to parenthood [21, 22]. In addition, a recent Australian study showed that fertility is typically perceived by men as women's domain, and they are rather passive participants in reproductive decision-making, which can impact negatively the chance of both women and men achieving their parenthood goals [23].

The key factors that influenced attitudes toward POC of our participants were the cost of oocyte cryopreservation and whether this cost was covered by public funding or health insurance. In fact, 73.9% of women preferred working for a company with a benefit package that includes the cost of POC, and 77.3% of women in our study considered that oocyte cryopreservation procedure should be funded. These findings are similar to those reported in a survey conducted on childbearing-age women from Korea, whereby 77% supported funding for non-medical oocyte cryopreservation [24]. In contrast to the Canadian survey of 500 childless women, 45.5% supported public funding for oocyte cryopreservation [9], and in the Australian study, only 6% supported full public funding and 36% partial public funding [11]. This indicates that affordability could be a significant determinant of undergoing POC, which may need to develop policies that promote equity of access for all. In line with Ter Keurst et al., religious and cultural concerns about undergoing POC were not particularly relevant to our participants' decision-making [25], and in accordance to Stoop et al.'s findings, health risks to children, themselves, and their fertility were the main determinants factors to oocyte cryopreservation in our population [18].

The optimal age of oocyte cryopreservation was reported by half of the participants to be between 30 and 38 years old, and the majority believed that a 40-year-old woman has a significant decrease in the ability to conceive [14]. An important point to consider is that this age margin is too broad, as differences in live birth rate were reported for women undergoing oocyte cryopreservation < 35 years compared to those > 36 years old (50% and 22.9%, respectively) [26]. Women of reproductive age tend to underestimate the impact of age on the ability to conceive and overestimate the success of assisted reproductive technologies (ART) to circumvent infertility. In a study by Hodes-Wertz et al., 79% of women who underwent oocyte cryopreservation wished they have done it earlier and attributed the delay to being unaware of the procedure and/or thinking that the technology was not readily available [17]. Unfortunately, the majority of women that undergo POC are doing it at age of 36–38 years, after a significant decline in their fertility [17, 26, 27].

Women's intentions to cryopreserve oocytes focused on the role of medical knowledge, the cost of oocyte cryopreservation, perceived pressure to delay childbearing, and employer coverage. These findings were also found in other studies [8, 16]. In contrast, a study by Caughey and White on psychosocial determinants of women's intentions and willingness to cryopreserve their oocytes found that the strongest contributors to oocyte cryopreservation were a person's perception of oocyte cryopreservation (negative versus positive), approval of others, perceived control over the oocyte cryopreservation process, and cognitive bias from the portrayal of oocyte cryopreservation and fertility in the media [28]. Neither objective nor subjective knowledge about oocyte cryopreservation or its outcomes influenced women's intentions about the process. These findings do not negate the role of accurately presenting the process of oocyte cryopreservation or the risks and alternatives involved. However, a more holistic approach allows the medical practitioner to engage not only as purveyors of knowledge, but also at a human level addressing attitudes, fears, and concerns about the treatment [16].

Limitations

The generalizability of the findings may be limited to the online nature of the data collection and the fact that participants were only representing participants from the UAE. In addition, similar to all surveys that rely on self-selected participation, it is likely that this study attracted participants who had an interest in or were more supportive of ART, in general. Nevertheless, the study population consists of women of reproductive age for whom the question is more pertinent considering the best age for oocyte cryopreservation.

Conclusion

Despite many participants being motivated to undergo POC, the majority had poor knowledge, and the main determinant of the knowledge score was the education level. The cost of the procedure remains a significant barrier. Awareness among couples of the consequences of delaying childbearing and comprehensive information from medical practitioners is highly needed to overcome the influence of the media and the incorrect portrayal of oocyte cryopreservation. POC helps women to preserve their fertility's reproductive autonomy towards the end of their reproductive lifespan when their biological clock is running out of time.

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Data availability Not applicable.

Declarations

Conflict of interest The authors declare no competing interests.

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