Myths about modern and traditional contraceptives held by women in Minia, Upper Egypt

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Abstract

Background: Misconceptions about modern contraceptives affect their use in low- and middle-income countries.

Aims: This study aimed to determine the prevalence of myths about modern contraceptives and their association with ever and current use of contraceptives by women in Minia, Upper Egypt.

Methods: This was a cross-sectional study of 1212 married Egyptian women aged 18–49 years attending urban and rural health centres in Minia. Data were collected using a structured interview questionnaire and analysed by logistic regression analysis; odds ratios (OR) and 95% confidence intervals (CI) were calculated.

Results: Most of the women (88.7%) had one or more misconceptions about contraceptives. The most prevalent misconceptions were that birth control pills cause cancer and intrauterine devices (IUDs) can penetrate the uterus and move to the heart. The current use of birth control pills and IUDs was significantly lower in women with misguided beliefs than those without such beliefs; adjusted OR = 0.59 (95% CI: 0.37–0.90) and adjusted OR = 0.50 (95% CI: 0.34–0.76) respectively. Belief in an increasing number of myths was associated with lower odds of ever use of birth control pills: OR = 0.72 (95% CI: 0.57–0.96), OR = 0.61 (95% CI: 0.43–0.91), OR = 0.48 (95% CI: 0.29–0.69) and OR = 0.43 (95% CI: 0.24–0.63) in women with 1, 2, 3 and ≥ 4 misconceptions versus those with none.

Conclusions: Myths about contraceptives are common in women in Minia and may have a significant effect on their choice and use of contraceptive method. Reproductive health programmes to refute such misguided beliefs are recommended.

Keywords: reproductive health, contraception, prevalence, female, Egypt

Introduction

According to the Egyptian Ministry of Health and Population, the proportion of contraceptives users in 2014 was still less than 50% and was far below the corresponding proportion of married women (> 80%) who desire no more children (1). With the rapid growth of the Egyptian population from 20.8 to 98.1 million inhabitants in the past 50 years (2), strenuous efforts have been made to promote maternal and child health through family planning programmes that empower families to make informed decisions on the number of children and interval between children they want and to reduce unintended pregnancies.

The use and type of contraceptives should be guided by women's health status (3). However, in low- and middle-income countries, culture and other non-medical factors have been shown to play an important role in women's decision to use contraceptives (4). Despite evidence on the positive effect of contraceptive use, not only on controlling fertility but also on women's health, family welfare and social life in general (5), myths and misconceptions about modern contraceptives are still prevalent in such communities (6–8) and may prevent their use, which can lower general health of the women (7–9) and may be obstacles to effective family planning programmes (7,8,10).

Myths and misconceptions about contraceptives are very common in deprived areas and low- and middle-income communities (4,6–8,11,12). In Egypt, especially in rural areas, poverty, illiteracy and misguided religious beliefs have created a culture and environment that have helped spread misinformation about modern contraceptives since their introduction in 1967 (13,14).

Evidence on these issues is from the 1980s and more recent studies are lacking. Furthermore, those earlier studies focused on misconceptions about oral contraceptive pills only. For example, one study showed that 57% and 52% of urban and rural Egyptians respectively believed that using oral contraceptive pills had substantial health risks (15). The most prevalent myths were that contraceptive pills cause severe headache (86% in rural and 95% in urban communities), anaemia (55% and 53%), sterility (20% and 37%), breast cancer (21% and 16%) and birth defects (17% and 11%) (15).

Therefore, the current study aimed to assess the prevalence of myths about various modern contraceptive methods used by women in Minia governorate in Upper Egypt and evaluate their effect on ever and current use of
modern and traditional contraceptives. It is hypothesized that myths about contraceptives in such communities could be influencing women’s choice about family planning options.

Methods

Study design and place

This was a cross-sectional study of married women aged 18–49 years recruited during their visits to the 10 accredited urban and rural health centres (eight urban and two rural) in Minia. These centres are accredited by the Egyptian Ministry of Health and Population to provide specific maternal and child health services. Minia is an Upper Egypt governorate with about 5.6 million inhabitants and an area of 30,000 km². The fertility rate in Minia according to the most recent census data was 3.8 per 1000 women aged 15–49 years (2). The uptake of contraceptives in Minia in 2015 was 37% for intrauterine devices (IUDs), 31% for oral contraceptives and 20% for injectables, with an overall prevalence of contraceptive use of 53% (4). These rates are comparable to national figures in 2014, which were 30% for the IUD, 16% for oral contraceptives and 9% for injectables, with an overall contraceptive prevalence of 59% (1).

Study sample

The study population was married women aged 18–49 years. All women visiting the selected health centres seeking maternal and child health services and family planning services from June to December 2015 were approached by trained data collectors from the Public Health Department at Minia University and fourth-year medical students and invited to participate after giving verbal consent. If they agreed, they were interviewed at that time and interviews took about 10–15 minutes. Exclusion criteria were unmarried females, pregnant women, women aged <18 or >49 years, women who did not give their consent, and duplicate observations for women who visited the same or other centres more than once in the study period.

Structured interview questionnaire

Data were collected about the participants’ sociodemographic characteristics, reproductive history, ever and current use of modern and traditional contraceptive methods and belief in seven myths about modern contraceptives using a structured interview questionnaire in Arabic (4). We tested the reliability of the questionnaire in a pilot study of 50 women.

Modern contraceptives included oral birth control pills, IUDs and injectables; traditional contraceptives included methods based on fertility awareness, such as calendar and lactational amenorrhea, and the withdrawal method. Due to the small number of participants who reported the use of barrier methods (five for condoms and three for diaphragms), we added these to the traditional methods category and labelled the group “traditional and barrier methods”.

Myths and misconceptions about contraceptives

A pilot study including 50 women from two health centres (one rural and one urban) was carried out to assess the contraceptive prevalence rate and non-medical factors associated with their use. Women were asked to freely report any fears and rumours about contraceptives that they had heard or that were circulating in their communities or families. Based on the myths reported by the women in the pilot study, seven that were frequently reported and related to the three main modern contraceptive methods available in Egypt (oral contraceptives, IUDs and injectables) were included in the main questionnaire. The myths were: oral birth control pills cause cancer, IUDs can penetrate the uterus and travel up to the heart, injectables cause permanent infertility, difficulty in getting pregnant after stopping the use of contraceptives, contraceptives adversely affect women’s health, contraceptives are for older women only, and contraceptive use increases the risk of fetal defects.

Statistical analysis

SPSS, version 20 was used for data entry and analysis. Characteristics of the women who had and did not have misconceptions about contraceptives were expressed as number and percentage or mean and standard deviation (SD). Chi-squared and t-tests were used to assess statistically significant differences in characteristics. The frequency of belief each of the seven myths was categorized according to women’s use of contraceptives: never (used contraceptives, modern or traditional), ever (used contraceptives at some time), and current users. Multivariable logistic regression analysis was used to assess the association between misconceptions about contraceptives and current and ever use of oral birth control pills, IUDs, injectables and total traditional and barrier methods. Odds ratios (ORs) and 95% confidence intervals (95% CI) were adjusted for: age, age at menarche, at marriage and at first baby, number of children, desired number of children, woman’s education and occupation, husband’s education and occupation, residence and decision-maker on the use of contraceptives In addition, the effect of increasing number of myths believed (1, 2, 3 and ≥4 myths versus none) on contraceptive use was evaluated. P < 0.05 was considered statistically significant.

Ethical considerations

Approvals to conduct the study were obtained from the Egyptian Ministry of Health and Population and the managers of the health centres. The Ethical Committee of Minia University granted ethical approval for this research. Women gave their verbal consent to participate.

Results

We approached 2021 women at the health centre in the study period; 1504 met our inclusion criteria (married, not-currently pregnant, seeking maternal and child health services and family planning services, aged 18 to 49 years). Of these women eligible for inclusion, 1212
conducted to participate, giving a response rate of 81%. As shown in Table 1, 1075 women (88.7%) believed myths about contraceptives. Women with misconceptions about contraceptives were younger and had younger age at menarche but were older at the time of the birth of their first child when compared with those without such misconceptions. Women with misconceptions about contraceptives were younger and had younger age at menarche but were older at the time of the birth of their first child when compared with those without such misconceptions. Women with misconceptions about contraceptives were younger and had younger age at menarche but were older at the time of the birth of their first child when compared with those without such misconceptions. Women with misconceptions about contraceptives were younger and had younger age at menarche but were older at the time of the birth of their first child when compared with those without such misconceptions.
A greater proportion of rural than urban women and women whose husbands were unemployed than whose husbands had a job had misconceptions about contraceptives. Of ever and current users of contraceptives, 137 (12.3%) and 100 (15.5%) respectively reported no misguided beliefs, while all women who had never used contraceptives (96, 100%) reported believing one or more myths about contraceptives. The 96 never users, had a higher mean of number of desired children (3.7 children) compared with ever contraceptive users (3.3 children). In addition, although never users were four years younger than contraceptive users, their mean number of children (2.5 children) did not differ greatly from that of contraceptive users (2.4 children), which suggests repeated pregnancies and deliveries. Eleven women (14.1%) who were currently using traditional or barrier contraceptive methods had no misconceptions about contraceptives compared with 33 (16.6%), 43 (18.1%) and 13 (10.1%) of current users of oral birth control pills, IUDs and injectables, respectively.

Table 2 shows responses to seven myths about contraceptives among never, ever and current contraceptive users and the total sample of women. The most prevalent myth about contraceptives was that birth control pills cause cancer which was expressed by 926 women (76.4% of the total sample), followed by the misconception that IUDs can travel up to the heart by penetrating the uterus – 568 (46.9%) of the women. A greater proportion of never users of contraceptives believed the myths than ever and current users. The multivariable logistic regression analysis of the association between misconceptions about modern contraception and ever use and current use of modern and traditional contraceptives is shown in Table 3. Women who have ever used any contraceptive method, and specifically birth control pills, were less likely to believe myths about contraceptives (OR = 0.79; 95% CI: 0.65–0.89) and OR = 0.40; 95% CI: 0.26–0.61 respectively). However, women who had ever used traditional and barrier methods had about twice the odds of believing myths than those who had not used these methods, but this difference was not statically significant (OR = 2.32; 95% CI: 0.92–7.47). Among current contraceptive users, women using any method, birth control pills and IUDs were less likely to believe myths about contraceptives, OR = 0.31 (95% CI: 0.20–0.47), OR = 0.59 (95% CI: 0.37–0.90) and OR = 0.50 (95% CI: 0.34–0.76) respectively (Table 3).

The association between believing myths and type of contraceptive used showed a dose-response pattern with belief in an increasing number of myths about contraceptives (Table 4).

### Discussion

To the best of our knowledge, this is the first study to measure the prevalence of myths about contraceptives among women in Upper Egypt, and the first to evaluate the effect of those myths on ever and current use of contraceptives. According to our findings, myths about contraceptives were prevalent; 88.7% of the women had misconceptions, mainly the belief that oral birth control pills caused cancer and that IUDs can penetrate the uterus and move to the heart. Accordingly, the ever use of oral contraceptives and current use of oral contraceptives and IUDs were lower and the ever use of traditional and barrier contraceptives was higher in women who believed in such myths about contraceptives compared with women who did not.

Challenging traditional customs and fertility habits by encouraging people to use contraceptives has always faced resistance (5,6,11–16). Because of the wide gap between scientific evidence and public perception of the safety of contraceptives, one path of resistance to contraceptive use was the ready spread of health-related myths about contraceptives in Egypt (13,14). Similar to our findings, these myths were prevalent and impeded the use of contraceptives in Senegal, Nigeria and Kenya (11), Ghana (12,17), India (18), Malawi (19), Nigeria (20) and many other countries as reported in two previously published reports (7,8).

Ever and current use of oral birth control pills was significantly lower in women in Minia who believed in myths about contraceptives. This is plausible given that the most prevalent myth about contraceptives reported by over three quarters of those women was
that oral contraceptives cause cancer. Since they became available in the 1960s, oral contraceptives have been the most stigmatized contraceptive method as result of disinformation and myths. Such falsehoods started in the 1980s with the rumour that oral contraceptives cause “weakness” (13), a non-medical based condition of lethargy, dizziness and fatigue associated with contraceptive pill use, and the myth was prevalent in Egypt (13), Botswana and the Islamic Republic of Iran (21). Other myths reported worldwide include the association between the oral contraceptives and ovarian, endometrial and breast cancer (22).

Despite the scientific evidence that IUDs are one of the safest forms of contraceptive (23), and its discontinuation rate is the lowest among contraceptive users in Egypt (1,4), the second most prevalent myth about contraceptives in women in Minia was that IUDs can travel up to the heart by penetrating the uterus. The current use of IUDs was 50% lower among women who believed this myth. Similar misrepresentations have been important barriers to IUD uptake in other low- and middle-income countries (7,8,24).

The use of oral birth control pills and IUDs decreased as the number of myths believed by women about contraceptives increased, while the ever use of traditional and barrier contraceptives increased among those who

| Contraceptive use | Beta | SE  | P-value | OR (95%CI) a |
|-------------------|------|-----|--------|--------------|
| **Current use of:** |      |     |        |              |
| Any contraceptives |      |     |        |              |
| Crude model       | -0.97| 0.20| < 0.001| 0.38 (0.26–0.56) |
| Adjusted mode b   | -1.17| 0.22| < 0.001| 0.31 (0.20–0.47) |
| Birth control pills |      |     |        |              |
| Crude model       | -0.55| 0.22| 0.01   | 0.58 (0.38–0.88) |
| Adjusted mode b   | -0.52| 0.25| 0.03   | 0.59 (0.37–0.90) |
| Intrauterine device |      |     |        |              |
| Crude model       | -0.73| 0.20| < 0.001| 0.48 (0.33–0.72) |
| Adjusted mode b   | -0.69| 0.24| < 0.001| 0.50 (0.34–0.76) |
| Injectables       |      |     |        |              |
| Crude model       | 0.14 | 0.31| 0.64   | 1.15 (0.63–2.11) |
| Adjusted mode b   | 0.04 | 0.34| 0.99   | 1.04 (0.54–2.03) |
| Traditional and barrier methods |      |     |        |              |
| Crude model       | -0.27| 0.34| 0.42   | 0.76 (0.39–1.48) |
| Adjusted mode b   | -0.12| 0.38| 0.79   | 0.88 (0.42–1.54) |
| **Ever use of:**  |      |     |        |              |
| Any contraceptives |      |     |        |              |
| Crude model       | -0.39| 0.39| 0.01   | 0.82 (0.68–0.92) |
| Adjusted mode b   | -0.23| 0.52| < 0.001| 0.79 (0.65–0.89) |
| Birth control pills |      |     |        |              |
| Crude model       | -0.75| 0.19| < 0.001| 0.47 (0.33–0.68) |
| Adjusted mode b   | -0.91| 0.22| < 0.001| 0.40 (0.26–0.61) |
| Intrauterine device |      |     |        |              |
| Crude model       | 0.28 | 0.23| 0.22   | 1.33 (0.85–2.08) |
| Adjusted mode b   | 0.33 | 0.26| 0.19   | 1.39 (0.88–2.26) |
| Injectables       |      |     |        |              |
| Crude model       | -0.08| 0.19| 0.68   | 0.92 (0.64–1.35) |
| Adjusted mode b   | 0.09 | 0.23| 0.20   | 0.91 (0.58–1.42) |
| Traditional and barrier methods |      |     |        |              |
| Crude model       | 1.04 | 0.52| 0.05   | 2.82 (1.02–7.81) |
| Adjusted mode b   | 0.84 | 0.60| 0.18   | 2.32 (0.92–7.47) |

SE: standard error; OR: odds ratio; CI: confidence interval.

aAdjusted for age, age at menarche, at marriage and at first baby, number of children, desired number of children, woman’s education and occupation, husband’s education and occupation, residence and decision-maker on use of contraceptives.

bThe reference category was women who did not belief in myths.
Table 4: Effect of belief in an increasing number of myths about contraceptives on current and ever use of contraceptives

| Number of myths | Any method | Birth control pill | Intrauterine device | Injectable | Traditional and barrier methods | Any method | Birth control pill | Intrauterine device | Injectable | Traditional and barrier methods |
|----------------|------------|--------------------|---------------------|------------|--------------------------------|------------|--------------------|---------------------|------------|--------------------------------|
|                | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) | aOR (95% CI) |
| None (n = 137) | 1.00       | 1.00              | 1.00              | 1.00       | 1.00             | 1.00       | 1.00              | 1.00              | 1.00       | 1.00              |
| 1 (n = 439)    | 0.93 (0.81–1.16) | 0.72 (0.57–0.96) | 0.58 (0.49–1.52) | 1.36 (1.12–2.38) | 1.13 (0.82–2.64) | 0.67 (0.42–0.79) | 0.82 (0.65–0.97) | 0.84 (0.63–1.04) | 1.36 (1.12–2.38) | 0.77 (0.56–1.09) |
| 2 (n = 325)    | 0.81 (0.64–1.03) | 0.61 (0.43–0.81) | 1.10 (0.83–1.45) | 1.08 (0.88–1.30) | 1.45 (1.11–1.92) | 0.76 (0.58–0.92) | 0.73 (0.59–0.92) | 0.80 (0.68–1.19) | 1.05 (0.82–1.34) |
| 3 (n = 204)    | 0.67 (0.42–0.82) | 0.48 (0.29–0.76) | 1.63 (0.93–2.83) | 0.91 (0.53–1.56) | 2.01 (1.32–2.98) | 0.63 (0.41–0.82) | 0.41 (0.29–0.69) | 0.91 (0.53–1.61) | 0.96 (0.53–1.83) |
| ≥ 4 (n = 110)  | 0.50 (0.32–0.77) | 0.43 (0.24–0.68) | 1.50 (0.89–2.66) | 0.80 (0.46–1.66) | 2.43 (1.16–5.16) | 0.45 (0.34–0.78) | 0.44 (0.24–0.66) | 0.80 (0.46–1.06) | 1.29 (0.46–3.28) |

*aOR = adjusted odds ratio; CI: confidence intervals.
Odds ratio adjusted for: age, age at menarche, at marriage and at first baby, number of children, number of children women desire, women education and occupation, husband education and occupation, residence and decision-maker regarding use of contraceptives.
*Reference category.

Conclusion

The belief in myths about contraceptives is common in Minia and was associated with lower use of contraceptive methods, especially modern contraceptive methods and IUDs. Moreover, the use of modern contraceptive methods is widespread in Minia. Reproductive health programmes to reduce myths and misguided beliefs about modern contraceptives should be reinforced. The use of modern contraceptive methods is widespread in Minia and is recommended along with continuous provision of such contraceptive methods to improve awareness and change social norms about their use.

It is clear that myths were widely circulated and persisted even among women who were using modern contraceptives. Women who believed in myths about contraception had a lower number of children. It is likely that myths are associated with lower use of modern contraceptives and to change social norms about their use.

Study of the current study is required to understand the prevalence of modern contraceptive use and the perceived benefits of modern contraceptive use on women’s health. Future research on these effects is needed, especially as the women with misguided beliefs were needed to increase the use of modern contraceptives.
However, training of reproductive health service providers to interact with and respond to incorrect information held by clients is recommended. These health service providers can also involve the community through counseling sessions and seminars, which include satisfied contraceptive users to share their experiences, to help dispel pervasive myths in their local communities.

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References

1. El-Zanaty F, Way A. Egypt demographic and health survey, 7th ed. Cairo: Ministry of Health and Population, National Population Council Press; 2014.

2. CAPMAS 2019 Demographic indicators. Cairo: Central Agency for Public Mobilization and Statistics (CAPMAS); 2019.

3. Practice guidelines for family physicians. In: Family planning. Second edition. Cairo: Ministry of Health and Population; 2004:27-47.

4. Eshak ES, Sayed SI, Kamel EG, El-Sheref MA. Non-medical predictors for ever and current use of contraceptives among women in Minia, Upper Egypt. J Public Health. 2018;26:663–71. https://doi.org/10.1007/s10389-018-0912-x

5. Tyrer L. Introduction of the pill and its impact. Contraception. 1999;59:11S–16S. https://doi.org/10.1016/s0010-7824(98)00131-0

6. Contraceptive myths and counseling messages. Baltimore: INFO Project, Johns Hopkins Bloomberg School of Public Health and International Planned Parenthood Federation; 2007 (https://www.k4health.org/toolkits/iud/contraceptive-myths-and-counseling-messages, accessed 3 December 2019).

7. Russo JA, Miller E, Gold M A. Myths and misconceptions about long-acting reversible contraception (LARC). J Adolesc Health. 2013;52(4 Suppl):S14–21. https://doi.org/10.1016/j.jadohealth.2013.02.003

8. Eram U. Myths and beliefs about contraceptive methods: a review article. Saudi J Med Pharm Sci. 2017;3(1):9–12. DOI: 10.21276/sjmpps.2017.3.2

9. ESHRE Capri Workshop Group. Noncontraceptive health benefits of combined oral contraception, Hum Reprod Update. 2005;11(5):533–25. https://10.1093/humupd/dmi019

10. Radovich E, el-Shitany A, Sholkamy H, Benova L. Rising up: Fertility trends in Egypt before and after the revolution. PLoS One. 2018;3(1):e0190148. doi:10.1371/journal.pone.0190148

11. Grubb GS. Women’s perceptions of the safety of the pill: a survey in eight developing countries. J Biosoc Sci. 1987;19(3):313–21. https://doi.org/10.1017/s0021932000016965

12. Shubhra A, Najam R, Agarwal A. A clinical study on social stigma and trends of contraception at a tertiary care centre. Int J Reprod Contracept Obstet Gynecol. 2016;5(12):4271–4. https://doi.org/10.18203/2320-1770.ijrcog20164326

13. Chipeta EK, Chmwaza W, Kalilani-Phiri L. Contraceptive knowledge, beliefs and attitudes in rural Malawi: misinformation, misbeliefs and misperceptions. Malawi Med J. 2010;22(2):38–41. https://doi.org/10.4314/mmj.v22i2.57870

14. Ankomah A, Anyanti J, Oladosu M. Misperceptions, misinformation and myths about modern contraceptive use in Ghana. J Fam Plan Reprod Health Care. 2014;40(1):30–5. https://doi.org/10.1161/jfrhcc-2012-100464

15. Shubhra A, Najam R, Agarwal A. A clinical study on social stigma and trends of contraception at a tertiary care centre. Int J Reprod Contracept Obstet Gynecol. 2016;5(12):4271–4. https://doi.org/10.18203/2320-1770.ijrcog20164326

16. Hamani y, Sciaki-Tamir Y, Deri-Hasid R, Miller-Pogrand T, Milwidsky A, Haimov-Kochman R. Misconceptions about oral contraception pills among adolescents and physicians. Hum Reprod. 2007;22(12):3078–83. https://doi.org/10.1093/humrep/de259

17. Ali SH, Abass IM. Misconceptions about oral contraceptive pill used among women at primary health care centers in Holy Karbala city. IOSR J Nurs Health Sci. 2015;4(6):70–7. https://doi.org/10.9790/1959-04837077

18. Ali MM, Sadler RK, Cleland J, Ngo TD, Shah I H. Long-term contraceptive protection, discontinuation and switching behaviour: intrauterine device (IUD) use dynamics in 14 developing countries. London: World Health Organization and Marie Stopes International; 2011.
24. Robinson N, Moshabela M, Owusu-Ansah L, Kapungu C, Geller S. Barriers to intrauterine device uptake in a rural setting in Ghana. Health Care Women Int. 2016;37(2):197–215. https://doi.org/10.1080/07399332.2014.946511

25. Hutchinson PL, Meekers D. Estimating causal effects from family planning health communication campaigns using panel data: the “your health, your wealth” campaign in Egypt. PLoS One. 2012;7(9):e46138. https://doi.org/10.1371/journal.pone.0046138