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Review article

A review of intrauterine contraception in the Asia-Pacific region☆

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Abstract

Background: Across the Asia-Pacific region, approximately 38% of pregnancies are unintended. Long-acting reversible contraception, such as intrauterine contraception (IUC), is effective in reducing unintended pregnancy.
Objective: This study aims to review access to, uptake of and influencing factors on IUC use in the Asia-Pacific region.
Methods: We searched PubMed and MEDLINE for articles published between 1990 and 2015. We identified and reviewed primary studies that examined the following points and were relevant to the Asia-Pacific region: available types and utilization rates of IUC and factors that influence these. We also obtained the opinions of local experts to gain a better understanding of the situation in specific countries.
Results: Types of IUC used and utilization rates vary widely across the region. Factors influencing rates of utilization relate to healthcare systems, such as government policy on and subsidization of IUC, types of healthcare providers authorized to place IUC and local guidelines on preinsertion screening. Healthcare provider factors include concerns around pelvic inflammatory disease and the suitability of IUC in certain groups of women, whereas end-user factors include lack of awareness of IUC, concerns about safety, cultural or religious attitudes, access to IUC and costs.
Conclusions: Across the Asia-Pacific region, clear data gaps and unmet needs exist in terms of access to and uptake of IUC. We believe that several recommendations are necessary to update future practice and policy for enhanced IUC utilization so that women across this region have better access to IUC.

Keywords: Intrauterine contraception; Asia-Pacific; IUC; LNG-IUS

1. Introduction

Unintended pregnancy is a global public health issue that has serious health, economic and social consequences for women and their families [1]. Worldwide and across the large and diverse Asia-Pacific region, which encompasses both Asia and Australasia, approximately 40% and 38%, respectively, of all pregnancies are unintended [2]. Within Asia, rates range from 36% to 44% [2]. In Australasia, 37% of pregnancies are unintended [2], although some sources quote rates as high as 51% for Australia [3] and 40% for New Zealand [4]. Very limited data are available on the rate of unintended pregnancy in some Asia-Pacific countries, for example, the Pacific Islands, although this has been estimated to be over half of all pregnancies [5].

To reduce the rate of unintended pregnancy, international guidelines advocate more widespread use of long-acting

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reversible contraception (LARC), including hormonal and nonhormonal intrauterine contraception (IUC) [6–8]. IUC is highly effective; typical use of IUC is associated with an unintended pregnancy rate of 0.2–0.8% within the first year of use, compared with 9% during the same time frame for short-acting reversible contraception methods, including oral contraceptives and the vaginal ring [9]. A recent large-scale prospective study on IUC use in 58,324 European women found that the levonorgestrel intrauterine system (LNG-IUS) and the copper intrauterine device (Cu-IUD) had high contraceptive efficacy, with an overall Pearl Index of 0.06 (95% confidence interval [CI] 0.04–0.09) in the LNG-IUS cohort (n=41,001) and an overall Pearl Index of 0.52 (95% CI 0.42–0.64) in the Cu-IUD cohort (n=17,323) [10]. Both methods were associated with a low rate of complications, such as perforation rates (1.4 per 1000 insertions in the LNG-IUS cohort and 1.1 per 1000 insertions in the Cu-IUD cohort) [11].

In addition to providing highly effective long-term reversible contraception, IUC has further benefits for women. Cu-IUDs can be used as an effective method of emergency contraception, which can be continued long term [12], whereas the LNG-IUS 20 (average release rate approximately 20 μg/24 h over the first year and total LNG content 52 mg [Mirena®; Bayer HealthCare]) significantly reduces menstrual blood loss [13]. A newer, slightly smaller, lower-dose LNG-IUS 8 (average release rate approximately 8 μg/24 h over the first year and total LNG content 13.5 mg [Jaydess®; Bayer HealthCare]) is also available in some countries. IUC is convenient for women because there is no need for daily, weekly or monthly administration, and it is associated with high continuation rates of 79–93% for hormonal IUC [9,14,15] and 78–81% for Cu-IUDs at 1 year [9,14,16,17]. Data from the US-based CHOICE project, a prospective cohort study of 9256 women in the St Louis region of Missouri that provided no-cost LARC, found that 75% of participants chose to use LARC methods after full contraceptive counseling on all methods and, of these, 58% chose to use IUC [18]. This shows the importance of cost to the woman as a barrier to IUC uptake. Studies have shown IUC methods to be highly cost effective over time [19,20].

We carried out a literature review focusing on IUC in the Asia-Pacific region with regard to IUC access and uptake and the factors that influence them. Additionally, we identified gaps in knowledge and potential strategies for increasing uptake, which will inform future practice and policy to enhance IUC utilization in the region.

2. Methods

We searched PubMed and MEDLINE for articles published in English between 1990 and 2015, identifying and reviewing primary studies of any design that examined the following points and were relevant to the Asia-Pacific region: the types of IUC that are available, rates of IUC utilization and factors that influence IUC utilization. For the purpose of this review, we defined the Asia-Pacific region as the following countries for which information and expert opinion were available: Australia, New Zealand and the Pacific Islands (Australasia); Singapore, Indonesia, Malaysia, Thailand and Vietnam (Southeast Asia); and Korea, China and Taiwan (East Asia). We excluded certain countries owing to very limited published data and expert insights (e.g., Japan, Cambodia, Myanmar and the Philippines). The search terms used were 'IUC *or* IUD *or* IUCD *or* intrauterine contraception *or* contraception', 'Asia' and the countries in the Asia-Pacific region. The full search strategy and results are presented in Appendix. We read the titles of all returned results from PubMed and MEDLINE searches. For any article that we deemed to be relevant, we read the abstract and included articles in this review if they contained relevant information on IUC in the Asia-Pacific region. We identified additional references used in this review through searching the reference lists of the selected papers and consultation with local experts. We also consulted local experts to gain a greater understanding of the local situation in specific countries through circulation of a data extraction table.

3. Results

3.1. Results of the PubMed and MEDLINE searches

The PubMed and MEDLINE searches returned 3221 results. Of these, we selected 13 papers for this review based on our search criteria. We identified a further 31 papers through the reference lists of the selected papers or expert consultation.

3.2. Types of intrauterine contraception available in the Asia-Pacific region

The types of IUC available across the Asia-Pacific region are summarized in Table 1. In Australia and New Zealand, LNG-IUS 20 and a small range of Cu-IUDs are available. In New Zealand, LNG-IUS 8 is now also available in addition to LNG-IUS 20 and Cu-IUDs. The use of IUC in the Pacific Islands is usually limited to Cu-IUDs (although these are not currently available in Tuvalu); LNG-IUS 20 is available in some countries, including Fiji, the Cook Islands and Samoa.

Across Southeast and East Asia, a broad range of IUC is available (Table 1). Although LNG-IUS 20 is available in all of the listed countries in this region, LNG-IUS 8 is only available in Korea and Taiwan. Cu-IUDs are widely available and this is particularly evident in China, where many nonhormonal IUDs that are generally not available for use outside the country are manufactured. These nonhormonal IUDs include stainless steel rings, combined stainless steel and copper IUDs, several framed Cu-IUDs and a frameless Cu-IUD [21].