

USE-EFFECTIVENESS OF THE COPPER-7 INTRAUTERINE DEVICE IN A MALAYSIAN FAMILY PLANNING CLINIC

GOH TAI HENG

INTRODUCTION

THE PERFORMANCE OF an intrauterine device (IUD) is influenced by many complex factors including physician experience, clinic attitude as well as the socio-cultural and demographic characteristics of the patient population (Mishell, 1975). Hence, although impressive results have been reported (Newton *et al.*, 1977; Simcock, 1976; Zipper *et al.*, 1976; Population Reports, 1973) with the Copper-7 IUD (Cu-7, Figure 1) these results cannot be taken for granted in a purely service as opposed to a research-oriented clinic.

This study was initiated for two main reasons. Firstly, despite its importance there is little information available on the use-effectiveness of the Cu-7 in a service or public health clinic. Secondly this IUD was first used in our family planning clinic in 1972 in place of the Lippes loop and an evaluation of this innovation is long overdue.

MATERIALS AND METHODS

The study was carried out at the University Hospital, Kuala Lumpur. The case records of patients who had Cu-7 insertion at the family planning clinic during the years 1972-1975 were reviewed. The cut-off date for analysis was 31st December, 1977. The definitions and method of analysis used are those set out by Tietze and Lewit (1973).

The contraceptive service was only available to married women as a matter of policy. Insertions were carried out in the interval period using the withdrawal technique. Follow-up visits were scheduled at 6 weeks, 3 months, 6 months, 12 months and thence yearly. Defaulters were contacted by letter or telephone but home visits were not routinely carried out.

Department of Obstetrics & Gynaecology, Faculty of Medicine,
University of Malaya, Kuala Lumpur, MALAYSIA.

GOH TAI HENG, MBBS, MRCOG



Fig. 1. Copper-7 intrauterine device (Gravigard)

RESULTS

A total of 497 insertions were carried out by 52 physicians, none of whom had previous experience of the Cu-7. Fifteen were academic staff members with previous experience of inserting the Lippes loop. The rest were trainee medical-officers or house-officers with little or no relevant experience. They carried out insertion of the Cu-7 under supervision of the academic staff members in charge of the clinic.

The age range of the study population was 18-45 years with 91% being under 35. The parity

range was 0-11. Seventy-nine percent were para 1-3 while 1.7% were nulliparous. The net cumulative termination rates are shown in Table I. The annual rates of loss to follow-up were 18.3, 7.5 and 5.6 percent respectively in the first three years. Most of the IUDs were removed by the end of three years as recommended (Population Report, 1973).

Table I
Net cumulative termination rates per 100 women (1 SD)
for 3 years of use of Copper-7

	MONTHS OF USE		
	12	24	36
Pregnancy	4.5 (1.0)	6.1 (1.1)	6.5 (1.2)
Expulsion	3.7 (0.9)	4.9 (1.0)	5.1 (1.0)
Removal:			
Pain/Bleeding	4.2 (0.9)	5.4 (1.2)	6.9 (1.0)
Other Medical	0.3 (0.3)	0.7 (0.4)	0.5 (0.3)
Planning pregnancy	3.0 (0.8)	12.8 (1.5)	15.2 (1.4)
Other personal	3.6 (0.9)	3.9 (0.9)	7.6 (1.0)
Termination rate	19.3	33.8	41.8
Continuation rate	80.7	66.2	58.2
Woman-months	5,013	9,564	14,095

COMMENT

In the first year of use, the acceptability of the Cu-7 is high as indicated by the continuation rate. However the continuation rate in the second year is only comparable to that reported for the Lippes loop D (Tietze and Lewit, 1970). This poor performance is largely due to the high rate of removal for planning of pregnancy and reflects the low age and parity status of the study population. Evidently, the Cu-7 was used to space childbearing only.

The respective cumulative rates of accidental pregnancy are higher than those so far reported for the Cu-7. For example, in the first year a range of 1.4 — 3.2 pregnancies per 100 women is reported (Newton *et al.*, 1977; Simcock, 1976; Zipper *et al.*, 1976; Population Reports, 1973), whereas our rate is 4.5, even higher than the figure published for the Lippes loop D (Tietze and Lewit, 1970). Unrecognised downward displacement of the Cu-7 is commonly associated with pregnancy (Newton *et al.*, 1977); since this tends to occur in

the first few months after insertion and is often asymptomatic, it is probable that our high pregnancy rate may be attributable, at least in part to the high default rate experienced in our clinic. Physician inexperience may also be relevant since correct fundal placement of the IUD demands practice.

The rates for expulsion and for bleeding and/or pain are in the lower ranges of those reported. These favourable results may be due to the fact that over 98% of our patients were parous, in contrast to other series which include a sizeable proportion of nulliparous women. Reinsertion following expulsion of the Cu-7 is usually successful (Newton *et al.*, 1977) but our patients were often frightened and unwilling to have this done despite the most careful reassurance.

In the category of "other personal reasons" for IUD removal the majority were older, high parity women who elected to have sterilization. One translocated Cu-7 was detected in the 5th month of use and required laparotomy for removal. Significantly, no ectopic gestation and no IUD removal for pelvic infection was encountered in this study.

In conclusion, the use-effectiveness of the Cu-7 in our service clinic has been acceptable: sex-related terminations were comparatively small in number and despite the relative inexperience and large number of inserting physicians, serious complications were few. This is fortunate as any adverse publicity may seriously hamper further acceptance of the IUD as had been the Singapore experience a decade earlier (Hu, 1970).

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