

Do we really know how to respond to an unexpected event during the fitting of an intra-uterine contraceptive device?

Judy Murty, MB ChB, DRCOG, MFFP, Senior Clinical Medical Officer, Leeds Community and Mental Health Teaching Trust. Correspondence. Dr Judy Murty, 19 Swinsty Court, Clifton, York, YO30 5ZP, UK. Tel: 01904 692518, Fax: 01904 692518, email: murty@easynet.co.uk

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Abstract

Objective. To assess and improve knowledge of correct resuscitation procedures if an unexpected event occurs during an intra-uterine device (IUD) fitting. Design. Previous literature on resuscitation in the family planning clinic was reviewed to provide a basis for a questionnaire for doctors and nurses within the service to assess knowledge of correct procedures. Outcome of first questionnaire. Seventeen questionnaires were returned in the first round, of which 12 were from nurses. The results to the first question gave a 70% correct response rate. The response to the second gave a correct response of 41%. Only six out of 17 would give atropine in a vaso-vagal attack. Intervention. The results were discussed at an audit meeting and most staff said that they wanted further training. This was linked with the Leeds Community and Mental Health Trust training for resuscitation. By linking to this training programme it saved time and resources for the family planning service. Outcome of second questionnaire. Twenty-one staff returned questionnaires, of which 12 were nurses. The results to the first question gave an 87% correct response rate. The response to the second showed a correct response of 71%. Fourteen out of the 21 replying would give atropine. Conclusion. A service cannot assume that staff know what to do in an emergency if it is rarely encountered. This audit showed that it is possible to raise knowledge standards through a training programme.

Key message points

- Basic knowledge for emergency procedures is not retained if particular skills are not used.
- Time and resources are needed to keep staff up to date.
- Update and training can be facilitated through other training programmes, so saving on time and resources for a service.
- Circulation of written information on best practice does not mean that the recipients will read and absorb the information.

Introduction

Over the last 10 years there has been the introduction of medical audit, clinical audit and now clinical governance and clinical effectiveness. The hardest part of clinical audit is getting round the cycle to show change has been achieved. During this period Leeds Family Planning Services have developed audit looking at individual parts of the service and building up standards for good practice. The fitting of intra-uterine devices (IUDs) is one of the areas that was selected.

Initially the IUD audit concentrated on the policy for prevention of infection¹ but after reviewing our local standards, it became apparent there are several processes involved in enabling a safe, effective service for clients. One of these areas is how well staff can react to an emergency situation during or after an IUD fitting. The service has 30 clinic sessions per week, of which eight are teaching clinics and two are specialist IUD training clinics. There are rarely any critical events, but occasionally (in the region of one per year) cervical shock occurs during a fitting procedure. Can we be confident that all the clinical staff would be able to manage the situation effectively? The importance of recognising an emergency situation has been highlighted previously² and recommendations for correct action summarised. In this review the guidelines were circulated to all staff and filed in a procedures book in each clinic of the service. This publication gave a base line for our standards along with other standard family planning text.³ Even if the clinical staff are reminded of best practice, can a service assume that the knowledge is retained and acted upon correctly? First stage of audit: Ascertaining current knowledge and discussion of course of action to be taken In 1997 a questionnaire was sent to members of the clinical staff (13 doctors and 29 nurses) to ascertain their background knowledge in relation to recognising the onset of symptoms of cervical shock and how the situation should be managed. The questions are outlined in Figure 1.

Figure 1 Questionnaire to review resuscitation knowledge in event of collapse with intrauterine device fitting.

Are you a doctor or nurse? Please tick box

Doctor ☐ Nurse ☐

Signs of impending collapse: please list three signs

List in order three procedures undertaken in emergency situation

In event of actual loss of consciousness which of the drugs in the shock pack should be used?

Have you had recent training in resuscitation?

Yes ☐ No ☐

Would you like to attend a training session if it was organised?

Yes ☐ No ☐

Seventeen questionnaires were returned, of which 12 were nurse responses. A summary of replies is shown in Figures 2 and 3.

Figure 2 Results from questionnaire indicating signs of impending vaso-vagal reaction

Listings of signs of imminent vaso-vagal attack (correct responses in **bold**)

1997					
1st sign of collapse		2nd sign of collapse		3rd sign of collapse	
Bradycardia	3	Pallor	12	Collapse	1
Faintness	1	Sweating	1	Bradycardia	5
Sweating	8	Rapid pulse	1	Sweating	3
Pallor	3	Weak pulse	1	Low BP	1
Shallow resp	1	Faint	1	Erratic pulse	1
Cold	1	Fall in BP	1	Pale/clammy	1
				Dizziness	1
				Tachycardia	1
				Dyspnoea	1
				Thready, weak pulse	1
1999					
1st sign of collapse		2nd sign of collapse		3rd sign of collapse	
Pallor	14	Bradycardia	5	Pale	2
Sweating	4	Sweating	12	Bradycardia	9
Bradycardia	2	Pallor	3	Sweating	3
Feeling ill	1	Thready pulse	1	Tachycardia	1
		Pulse increases	1	Thready,	
		Fall in BP	1	weak pulse	2
				Feeling faint	2
				Breathing shallow	1
				Reduced consciousness	1

The expected answers to the question ‘*Signs of impending collapse: please list three signs*’ were pallor, sweating and bradycardia. The results showed a correct answer to all three by 70% of those responding. However, some respondents thought that tachycardia could be expected.

The expected answers to the question ‘*List in order the procedures undertaken in emergency situation*’ were raise the legs, abandon procedure, check airway. The results showed a correct response of 41% of those responding.

In response to the question ‘*In event of actual loss of consciousness which of the drugs in the shock pack should be used?*’ only six out of the 17 responded with ‘atropine’.

Only two respondents had been on a recent training course for resuscitation and 16 said that they wanted training.

Even though there was a good response from the staff in that they would recognise the onset of cervical shock, there was a poor response to the actual action they would take. Some respondents would give adrenaline rather than the correct drug atropine, and some would be over-enthusiastic in their responses.

Strategy for change

At the audit meeting of all the staff to discuss the results, it was agreed that a training programme had to be instigated with the staff to raise the level of knowledge. At the same time the Leeds Community and Mental Health Teaching Trust was also embarking on a training programme for all staff, including basic life support skills. As all members of staff are expected to attend these training sessions, the two programmes were combined to save on time and resources. In the basic life support training programme emphasis was placed on the particular situations encountered in the family planning clinic scenario. As these services employ part time staff, all were paid to attend the training sessions over their regular clinical commitments.

The standards agreed as best practice (Figure 4) were circulated to all the doctors and nurses, and copies were kept at the clinic bases. The staff were informed that the questionnaire would be repeated at the next cycle for the IUD audit. It was stressed that the signs of imminent collapse from cervical shock could be managed successfully without heroic action and by taking simple measures.

Re-audit of knowledge

The same questionnaire was repeated after 2 years. By then all the staff had been invited to at least one training session. Twenty-one staff returned questionnaires, of whom 12 were nurses. The results show an improvement in knowledge (Figure 3), but not up to 100% correct answers. This was

Figure 3 Results from questionnaire concerning management of possible collapse

Procedures listed to manage possible collapse (correct responses in **bold**)

1997					
1st action		2nd action		3rd action	
Check pulse and breathing	1	Give adrenaline	1	Recovery position	1
Remove IUD	3	Raise legs	3	Maintain airway	5
Elevate legs	2	Remove IUD	1	Monitor pulse and respiration	2
Lie flat	6	Check airway	4	Atropine	2
Airway	3	Reassure	1	Call for help	1
Get help	1	Cardiac massage	1	Reassure patient	1
		Get help	2	Circulation	3
		Resuscitate	1	Observe patient	1
		Check breathing	1	Insert airway in unconscious	1
1999					
1st action		2nd action		3rd action	
Abandon procedure	10	Legs up, head lowered	2	Maintain airway	2
Elevate legs	7	Raise legs	7	Monitor pulse and respiration	6
Lie flat	3	Check airway	2	Atropine	1
Head lowered	3	Head down	5	Call for help	1
Ensure airway	4	BP and pulse	2	Lower head, raise legs	2
Check pulse and breathing	1	Inform doctor	1	Insert airway	1
		Stop procedure	3	Desist from over treatment	1
		Put in recovery	1	Commence CPR	3
		Mouth to mouth	1	Put in recovery	3
		Breathing	1	Circulation	1

Figure 4 Protocol for resuscitation measures in IUD clinics: from Nancy Loudon 1995³ (Agreed at audit meeting September 1997)

- 1: Unhurried, calm, atmosphere

2: Early signs of vaso-vagal attack: abandon procedure and raise legs with head lowered

3: Clear airway

4: Laerdal mask available

5: Avoid over treatment: simple procedures

6: Correct positioning should take precedence over heroic procedures

7: Where persistent bradycardia: 0.6 mg of atropine IV. Injudicious use of drugs may do more harm than good.

8: If failure to regain consciousness transfer to A&E

even though the standards had been sent to all the staff and clinics and the agreed actions were from standard text.

The responses to the first question produced a correct answer in 87% and correct responses were attained in 71% to the second question. No one responded with a reply of ‘keeping unhurried and calm’, which is the first line of action as stated in the agreed guidance (Figure 4). Fourteen out of the 21 members of staff replying gave atropine as the drug to use from the shock pack. This is an improved response from the first replies. No one suggested that adrenaline should be given in the responses to an imminent collapse. Nineteen of the 21 members of staff replying still felt they needed further update training in resuscitation.

Conclusions from audit

It cannot be assumed that clinical staff are aware of the necessary action in an emergency situation. The information may be in standard text and reported in journals, but it does not mean it can be recalled when action is needed. It was of concern that initially only a minority of staff responding to the questionnaire was able to give the correct name to the drug to use in a situation of cervical shock. The same questionnaire was used for all the clinical staff, both doctors and nurses, as the audit has concentrated on the teamwork that is essential for the family planning service. There was no difference in the accuracy of responses between doctors or nurses.

With concentrated effort to reinforce resuscitation knowledge by linking with the overall Leeds Community and Mental Health Teaching Trust programme, we were able to show an increase in knowledge levels. Also, the results of the audit gave feed-back to the Trust training programme on the effectiveness of their training days.

The audit questionnaire was confidential apart from their clinical designation. It was not possible to match individual responses in second round of the audit to the first. Those staff that gave the incorrect answers the first time round would have known at the discussion meeting who they were. However, we did not get a 100% correct result the second time round for the questionnaire. This was in spite of the standards being sent to all staff, a copy held in the clinics, and all staff being paid to attend training sessions. A possible explanation for this is that new staff coming into the service were not aware of the audit. As we have a 2-year audit cycle, any staff joining in this period have to ‘catch up’ on in service policies. They are given a copy of the agreed procedures when joining the service as part of their

induction package. Also, the service cannot force members of staff to attend training days.

Even though the methodology of the audit was simple, the result shows how time, effort and resources are need to raise standards. The questionnaire will be repeated again in 2 years and hopefully we will have increased the level of correct responses and have at least improved or maintained the current knowledge levels. Perhaps for the next round staff will refer to the policy documents held in every clinic and refresh their knowledge by looking up the right responses. From the questionnaire responses it seems that staff want to maintain regular updating sessions and training, which has time and resource implications for the family planning service and Trust training programmes.

Even though in training courses for family planning, both for doctors and nurses, the basic knowledge is learnt, without constant practice the skills become rusty. This is particularly so for a rare event such as cervical shock during or following an IUD fitting.

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