TABLE III—Advice on portions for consumers on "eating five portions of fruit and vegetables a day." (The term "serving spoonful" has been used to emphasise that the amounts of fruit and vegetables are as served on to the plate, rather than raw ingredients)

Food type	Practical description of portion (approx 80 g)	Examples
Fruit:		
Very large fruit	One large slice	Melon, pineapple
Large fruit	One whole	Apple, banana
Medium fruit	Two whole	Plum, kiwi
Berries	Cupful	Raspberries, grapes
Stewed and canned fruit	Three serving spoonfuls	Stewed apple, canned peaches
Dried fruit	Half serving spoonful	Apricots, raisins
Fruit juice	Full wine glass	Orange juice, fresh and from concentrate
Vegetables:		
Green vegetables	Two serving spoonfuls	Broccoli, spinach
Root vegetables	Two serving spoonfuls	Carrots, parsnip
Very small vegetables	Three serving spoonfuls	Peas, sweetcorn
Pulses and beans	Two serving spoonfuls	Baked beans, kidney beans
Salad	Bowlful	Lettuce, tomato

How much in a portion?

Whether advice to "eat five a day" should refer to the number of occasions of eating fruit and vegetables or the number of portions is uncertain. To achieve the kind of dietary changes proposed in health strategies such as the Health of the Nation and The Scottish Diet advice needs to promote consumption of five "decent sized" servings or portions. A couple of slices of tomato in a sandwich or a few mushrooms in a chicken and mushroom pie should not count.

Nutrition information which uses a mean portion size of around 80 g as a decent sized portion ties in well with average serving sizes used by households in Britain.20 The main area of discrepancy is with salad foods: consumers and caterers should be told that it is necessary to eat a "bowlful" of salad to count as one portion.

Table III uses this approach to show amounts which constitute a "portion" of fruit and vegetables. Supporting advice should explain that serving size should reflect age, sex, and activity and that active young men would be expected to eat larger portions. Similarly, small children can still aim to "eat at least five" but their portions may be smaller.

I thank the policy unit of the Consumers' Association for supporting initial development work for this paper and for comments received from interested parties, particularly the Department of Health.

A more detailed list is available on request for use in preparing photographs and illustrations of portion sizes and for interpreting dietary surveys.

- 1 Domel SB, Leonard SB, Baranowski T, Baranowski J. "To be or not to be."
- Fruits and vegetables. J Nutr Ed 1993 25:6:352-8.

 2 Anderson A, Marshall D, Lean MEJ, Foster A. Ripe for change: Fruit and vegetable consumption in Scotland—current patterns and potential for change. Edinburgh: Department of Business Studies, University of Edinburgh, 1993 (Working paper series 93/1).
- 3 Department of Health. Eat well!, an action plan from the Nutrition Task Force to achieve the Health of the Nation targets on diet and nutrition. In: The health of the nation. London: DoH, 1994.
- 4 Department of Health. Nutritional aspects of cardiovascular disease: rep cardiovascular review group, committee of medical aspects of food policy.
 London: HMSO, 1994 (Report on health and social subjects; 46).

 5 Working Party to the Chief Medical Officer for Scotland. The Scottish
- diet, Scotland's Health-a challenge to us all. Edinburgh: Scottish Office,
- 6 World Health Organisation. Diet, nutrition and the prevention of chronic diseases. Geneva: World Health Organisation, 1990 (Technical report series
- 7 Ministry of Agriculture, Fisheries and Food. Household food consumption and expenditure. London: HMSO, 1994. 8 McCance and Widdowson's The composition of foods. 5th ed. Cambridge: Royal
- Society of Chemistry, Ministry of Agriculture, Fisheries, and Food, 1992.

 Gregory J, Foster K, Tyler H, Wiseman M. The dietary and nutritional survey of
- British adults: a survey of the dietary behaviour, nutritional status and blood pressure of adults aged 16 to 64 living in Great Britain. London: Office of Population Census and Surveys. Social Survey Division, HMSO, 1990.
- 10 Coronary Prevention Group and Guild of Food Writers. Eat well. Live well. London: CPG, 1991.
- 11 Marshall J, Heughan A. Eat for life diet. London: Vermilion, 1992.
- 12 Eating for health WHO style. Which way to health? 1991; April:48-9.
 13 Eating for health. Inside story. Which? May 1991:224.
- 14 Europe Against Cancer. A key to health: eat five fruit and vegetables every day.? Brussels: Cancer Education Coordinating Group, European Union Against Cancer Programme, Europe against Cancer, 1994.

 15 Fresh Fruit and Vegetable Information Bureau. Fresh is beautiful. London:
- Fresh Fruit and Vegetable Information Bureau, 1994.
- 16 Take 5! Healthy eating with fruit and vegetables. London: J Sainsbury's, 1994.
- 17 National Cancer Institute and Produce for Better Health. '5' a day' for better health. Bethesda, Maryland: NCI, 1994.
- 18 USA Department of Agriculture. The food guide pyramid... beyond the basic. USAD: Human Nutrition Service, 1992.
- 19 Ministry of Agriculture, Fisheries and Food. The dietary and nutritional survey of British adults—further analysis. London: HMSO, 1994.
- 20 Ministry of Agriculture, Fisheries and Food. Food portion sizes. 2nd ed. London: HMSO, 1993.
- 21 Health Education Authority. The balance of good health. Introducing the national food guide. London: HEA, 1994.

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An Ethical Debate

Should older women be offered in vitro fertilisation?

The interests of the potential child

Tony Hope, Gill Lockwood, Michael Lockwood

In most discussions of the ethics of fertility treatment it is claimed that the interests of the potential child are of major if not paramount importance. The practical significance of this consideration has been grossly overestimated. Contrary to conventional wisdom, the interests of the potential child hardly ever constitute an adequate reason for withholding fertility treatment.

Modern fertility treatments became the focus of much media attention in 1993 after the widely publicised case in which a 59 year old woman was enabled to give birth to twins by means of in vitro fertilisation with donated eggs and her partner's sperm. Fertility treatments raise a wide range of ethical and social issues. We focus on one specific issue: the interests and welfare of the potential child. These factors are often cited as important reasons for withholding fertility treatment. We contend that they are almost never relevant, and moreover, we support a wider provision of fertility treatment.

The Human Fertilisation and Embryology Act 1991 states that "centres considering treatment must take into account the welfare of any child who may be born." Robert Winston, professor of fertility studies at the Hammersmith Hospital, argued that it is wrong to offer in vitro fertilisation to most postmenopausal women.1 One of his reasons concerned the potential child. Hugh Whittall of the Human Embryology and Fertilisation Authority said that although there was no upper age limit for treatment in law, concerns for the potential children ruled out treating elderly women.2 The welfare of the child was raised by Dame Jill Knight, member of parliament for Edgbaston, in connection with using eggs from aborted fetuses. She said that she did not understand how the medical profession could consider producing children from a

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London Gynaecology and Fertility Centre, London W1N 1AF Ian Craft, professor mother who never existed, and she asked what the effect on the child would be when he or she realised that basic truth.³

Conception and adoption—a fair analogy?

A parallel is often drawn between assisted conception and adoption, with the underlying implication being that couples seeking fertility treatment should somehow prove their fitness as potential parents. We consider this to be a false analogy.

In the case of adoption the child already exists. Hence, the question being asked is: among all the couples who would like to adopt a child, which would make the most suitable parents for this child? The criteria for adoption will inevitably be determined by supply and demand. To put it bluntly, if there are only 10 babies for adoption and 5000 couples wishing to adopt, then the authorities can afford to be very particular about their criteria for accepting couples as adoptive parents.

The situation for a couple seeking help with conception is totally different. If we focus on the interests of the potential child the question that needs to be asked is: are the interests of this potential child better served if he or she is born to these parents or if he or she never exists at all? The possibility of "this" potential child being born to any other (possibly better) parents does not arise. This, crucially, is where the analogy with adoption breaks down.

Of course it is difficult to say when it would be better not to exist; the intrinsic worth of an individual's life cannot readily be quantified, least of all when that life has not yet started. We suggest, however, that the level of parenting would have to be very low for it to be preferable not to exist at all rather than exist as a child of those parents. Society's reluctance to step in and take a child into care except under the most dire circumstances of appalling parenting confirms this.

With regard to the 59 year old woman who gave birth to twins, a frequently reported objection is that the children's mother is likely to die when they are still quite young. No doubt, other things being equal, it is preferable to have a mother who survives well into one's own adulthood. But to put this forward as a sufficient reason for denying fertility treatment is tantamount to claiming that it is better never to have existed than for one's mother to have died when one is still quite young.

This is not the stance we should normally adopt in other contexts. Many serious medical conditions experienced by young women are also associated with difficulties in conceiving or bearing children. Yet these women's desire for children and need for fertility treatment is often regarded most sympathetically precisely because of their diminished life expectancy.

Interests of society masquerading as interests of the potential child

It might be argued that if we cannot help every couple who wants help—because of limited resources—then we should choose between "competing" couples, on the basis of seeking to maximise the number of happy children made per pound spent. If it is true that the children of younger parents usually enjoy a higher level of wellbeing than those of older parents, then we are likely to purchase more wellbeing by helping younger rather than older prospective parents.

In whose interests, however, are we acting? Selecting couples for in vitro fertilisation resembles other procedures that entail problems of allocating resources. For example, a hospital might delay admission of a patient who requires non-urgent surgery in

order to admit a patient requiring an urgent operation. No one would maintain that it was in the best interests of the first patient for his or her surgery to be delayed, but the justification for acting against those interests is that others in the society benefit thereby and that, all things considered, the decision is fair.

There are two main dangers in failing to distinguish between the interests of the particular potential child and those of the potential children who might come into existence if resources were used to help other couples instead. The first danger is that we might, wrongly, refuse to help a couple even when not helping them would not in fact benefit other couples—for example, when the treatment is funded by private resources that would not be available to other couples. The second danger is that society might fail to provide sufficient funds for assisted reproduction. It would clearly be wrong in general to fund assisted conception for an individual couple if it would be better for that couple's potential child not to exist. But it is a very different matter for society to provide insufficient funds for treatments that would confer a genuine benefit. Society may decide as a matter of policy that it will not fund medicine, gynaecology, or fertility treatment beyond a certain level, but that decision requires justification.

Conclusion

We conclude therefore that except in most unusual circumstances it is not right to withhold fertility treatment on the grounds of the interests of the potential child. Society may feel entitled to refuse fertility treatment because of cost or because it does not regard infertility as a priority health concern, but it should not feel comfortable justifying such failure of provision in terms of the interests of the potential child.

- 1 Mihill C. UK fertility doctors rule out test tube babies for older women because of fears for children's welfare. Guardian 1993 Jul 20.
- 2 Guardian 1993 Jul 20.
- 3 Laurance J. New fertility treatment facing ban: Times 1994 Jan 3.

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Can older women cope with motherhood?

Jennifer Jackson

The reasons put about for refusing in vitro fertilisation to postmenopausal women may seem feeble—as if people first of all feel uncomfortable about such treatment then cast around for reasons to justify their misgivings.

Some consider that these older women are less likely to benefit than younger women in the competition for treatment. But I do not want to go into the vexed issue of "fair shares." Resources aside, underlying people's misgivings is the thought that even though technology can fit such women for pregnancy, it does not fit them for parenthood—they are too old to be adequate parents to young children.

Is it wrong for a woman to seek to become a mother if she knows, or should know, that she will not be able to cope well with motherhood? It is wrong if her becoming a mother is unjust—as it infringes the resultant child's rights. But the child is not wronged since it cannot be born to better parents.

Yet even if such women are not acting unjustly they may still be acting wrongly. There are other vices