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WOMEN'S PERCEPTIONS OF THE SAFETY OF THE PILL: A SURVEY IN EIGHT DEVELOPING COUNTRIES

REPORT OF THE PERCEPTIONS OF THE PILL SURVEY GROUP*

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Summary. In January 1985, a Gallup poll sponsored by the American College of Obstetrics and Gynecologists reported that 76% of the US women sampled thought that there were substantial risks with using the pill, 31% thought the pill caused cancer and 64% thought the risk of childbearing was equal to or less than that in taking the pill. To assess the perceptions of the pill's safety internationally, a survey of 100–150 urban, middle-class women aged 18–45 years was conducted in each of eight countries in the developing world. There were striking similarities in perceptions of the pill's health effects between countries: (1) taking the pill is considered to have substantial health risks by 50–75% and is thought to be more hazardous than childbearing by over 40% of respondents except those in the African samples; (2) women who had used the pill are as unaware as those who had not of possible serious cardiovascular adverse effects; (3) the protective effects of the pill are virtually unknown; (4) the greatest inconsistency with scientific evidence concerns the risks of sterility and birth defects attributed to pill use. With information from this survey, family planning programmes can rectify almost universal misperceptions of the pill's safety when counselling new and continuing pill users.

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Introduction

November 1986 saw the 30th anniversary of the first publication of a clinical trial of the oral contraceptive. During those 30 years, views on the safety of the pill have been shaped by widely quoted reports of the health effects of the pill; both the adverse effects and, in the last decade, its non-contraceptive beneficial effects. The public perception of the pill's safety in the US is markedly inconsistent with the scientific evidence. This was demonstrated in a January 1985 Gallup poll (Gallup Organization, unpublished) commissioned by the American College of Obstetricians and Gynecologists which found that 75% of US women believed there were substantial health risks in taking the pill and only 16% correctly stated that taking it was less dangerous than childbearing.

If there are wide discrepancies between scientific evidence and public perception of the pill's safety in a well-informed nation such as the US, are there similar discrepancies in other countries? The international research on attitudes towards the use of contraceptives has focused on local rumours about contraceptive use (Tsui, DeClerque & Abul-Ata, 1986; Bertrand *et al.*, 1982; Liskin, 1984). However, little of the research includes cross-national, detailed information on perceptions of safety. Fear of side effects is one of the major reasons for women not using the pill. The survey reported here is the first attempt to identify worldwide yet specific concerns about the pill's safety so that family planning programmes can anticipate and allay pill users' fears.

The purpose of this survey in eight countries with diverse cultures and acceptance levels of the pill was to obtain a sufficiently accurate estimate of each sample's responses to detect general cross-national trends and wide discrepancies between samples. To have some comparability of socioeconomic status between samples, investigators in each country selected for sampling a community within a major urban area thought to be typical of the local middle-class. Within a community with a population of 1000–2000 women of reproductive age, four or five sampling clusters were selected for door-to-door ascertainment of eligible respondents. To be eligible, a respondent had to be a woman 15–44 years of age who had heard of the contraceptive pill. If the household had an eligible respondent who was not at home, the house was not revisited because of cost. If more than one woman was eligible in a household, only one of them was interviewed. In each community, approximately 100 or 150 women were interviewed using a standardized questionnaire translated into the native language.

Between February and May 1986, interviews were conducted in: a northern suburb of Bangkok, Thailand; Colombo, Sri Lanka; Dakar, Senegal; Ibadan, Nigeria; Mansoura, Egypt, and in a semi-rural area 20 km outside Mansoura; Mexico City; Santiago de Puriscal, Costa Rica (40 km from San Jose); Santiago, Chile.

The study

The characteristics of the respondents in each of the nine samples were similar with respect to mean age (about 30 years old), parity (1–2 children, except in the African country samples) and years of education (9–12 years, except in the rural Egypt and

Table 1. Selected demographic characteristics of respondents

Country of sample	*N*	Mean age (years)	Mean parity	Mean no. years of education	% currently married
Thailand	150	31·0	1·2	11·6	72·7
Sri Lanka	150	31·5	1·7	9·9	88·0
Egypt: urban	100	31·7	3·0	8·7	81·0
rural	101	33·1	3·2	6·2	95·0
Senegal	102	31·1	4·6	6·5	69·6
Nigeria	150	30·5	2·7	12·3	86·7
Costa Rica	104	29·5	1·9	9·3	67·3
Chile	100	28·4	1·0	12·5	44·0
Mexico	100	28·1	1·5	9·1	54·0

Senegal samples with 6 years) (Table 1). In six of the samples, 37–56% of respondents had used the pill at some time. However, in Sri Lanka 19% had used the pill and in Egypt, the urban and rural samples both had a high percentage of users (76% and 81%, respectively). These percentages from the Egyptian samples are much higher than those for Egypt as a whole.

In each country, between 51% and 75% of respondents said that there were substantial health risks in taking the pill and 10% or less had no opinion (Table 2). The percentages for the different countries were surprisingly similar to each other and to the results of the poll in the US. To assess the perception of the health risk of the pill relative to another reproductive risk, a question was asked whether taking the pill was more, less or equally risky than having a baby. In the Latin American and Asian

Table 2. General perceptions of the pill's safety (% distribution)

	Pill use has substantial health risks			Compared with childbearing pill use is:			
Country of sample	Yes	No	Don't know	More risky	Equally risky	Less risky	Don't know
Thailand	61	33	6	48	8	22	22
Sri Lanka	51	40	9	40	21	12	27
Egypt: urban	57	36	7	2	27	61	10
rural	52	42	4	3	21	70	6
Senegal	69	28	3	2	38	40	20
Nigeria	66	24	10	27	9	59	5
Costa Rica	75	25	0	47	19	30	4
Chile	74	16	10	50	23	24	3
Mexico	61	37	2	48	21	29	2
US*	76	22	3	46	18	16	20

* Source: Gallup poll, January 1985.

countries 40–50% thought that having a baby was less risky and about 20% thought it was equally so. In the African samples, a lower percentage of respondents (9–38%) thought that the risks in having a baby were less than or equal to taking the pill. This opinion among African women may reflect the fact that maternal mortality is higher in the sub-Saharan African nations sampled than in the other countries. The percentage of respondents who correctly stated that childbearing was more risky than taking the pill was higher in all but one sample (Sri Lanka) than in the US poll (16%). These higher percentages of correct responses may also reflect the higher maternal mortality rates in the developing countries than in the US.

The major health risks of the pill are its adverse cardiovascular effects. The general range of respondents who were aware of an increased risk of heart disease was 25–35%, stroke 15–25%, and severe headache 50–65% (Fig. 1). The percentage in each sample who knew of the increased cardiovascular risks did not vary substantially whether the respondent had used the pill or not. Where the percentage who knew of increased cardiovascular risks differed between users and never-users by more than 5%, in most cases the never-users were more aware of the risks than the users. Since severe headaches are often a warning sign for stroke, it is interesting that among users, severe headaches were recognized as a health risk by 25–55% more respondents than were strokes. These findings show that awareness of the pill's cardiovascular risks is not adequate, especially among pill users.

Concern about possible associations of cancer with pill use has been expressed almost since the introduction of the pill. Since such an effect varies with the type of cancer, it is important to assess the perception of this risk of the pill for specific cancer sites. Probably the major controversy concerned a link between breast cancer and pill use. While many studies have shown no such association, this issue remains controversial because of a few studies which have raised a concern about breast cancer associated with long-term pill use (e.g. over 8 years) among young women. If a true association does exist, it is very likely to be marginal and pertain to a small minority of pill users. Between 20% and 40% of respondents thought the risk of breast cancer was increased by taking the pill. The risk of breast cancer was rated higher in the Latin American samples than in the other countries.

Another cancer–pill controversy involves uterine cancer. While a 50% reduction in the risk of endometrial cancer is well documented, the possibility of a 1·5–2-fold increase in the risk of cervical cancer among long-term (3+ years) pill users remains controversial. Since most respondents in these samples would probably not be able to discriminate between the two types of uterine cancer, the question asked concerned only the risk of uterine cancer associated with pill use. The percentage in each sample who thought that there was an increased risk of uterine cancer (25–50%) was similar to the percentage who thought that the risk of breast cancer was increased.

A cancer that has never been associated with pill use is stomach cancer. Approximately 20–30% of respondents in each sample (including 15–30% of users) thought there was an increased risk of stomach cancer. Because the pill is ingested, a non-specific perception of it causing cancer might include cancer of the stomach on account of its direct contact. This finding illustrates the degree of misinformation about the pill that can be present even without any controversy or publicity concerning a specific health risk.

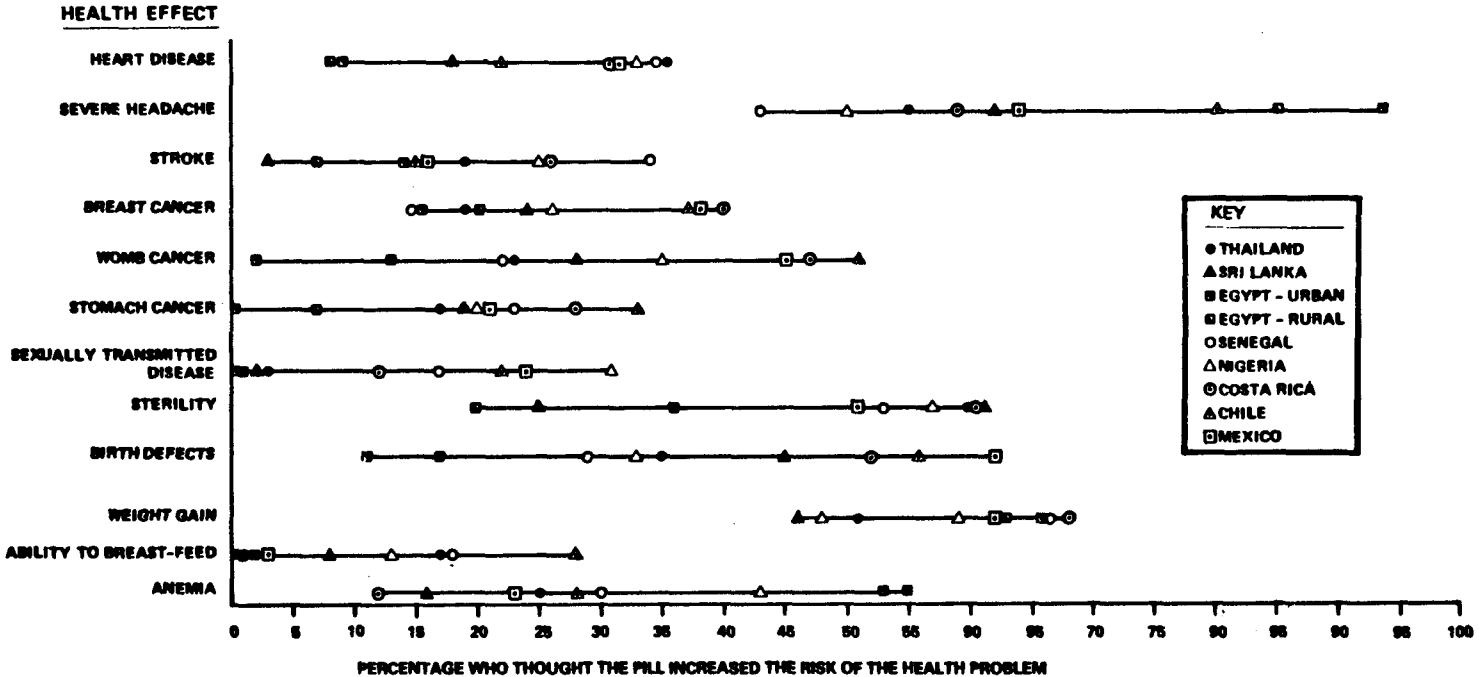

Fig. 1. Percentage in each country sample who thought that the pill increased the risk of selected health problems.

Among the most emotionally charged fears regarding pill use are those concerning reproductive effects. Concerns about pill-induced sterility and birth defects remain despite evidence that the pill protects against female sterility by reducing by half the risk of severe pelvic inflammatory disease from sexually transmitted diseases which can cause tubal infertility. The bulk of scientific evidence also shows that the pill has no effect on the incidence of birth defects.

Of respondents in the Latin American and sub-Saharan samples, 15–30% thought that the pill increased the risk of sexually transmitted diseases while respondents from the Asian and Egyptian samples had almost no concern about such an association. In contrast, concern about pill-associated sterility was almost universally high. Except for the Egyptian and Sri Lankan samples, over 50% of the respondents thought that the pill increased the risk of sterility. The users in these samples did not show less concern, 38–56% believing that the risk of sterility was increased. Respondents thought that the pill was somewhat less likely to increase the risk of birth defects than to increase the risk of sterility but 29–62% (except in the Egyptian samples) thought the risk of birth defects was increased. In five of the nine samples, among users and never-users there were similar percentages who thought that the risk of birth defects was increased. In the other four samples, the percentage of users who thought the risk of birth defects was increased was one-half to one-fifth of that among never-users. This difference in perception of risk between users and never-users was more pronounced for birth defects than for the other health problems discussed.

The assessment of perceptions about several common but less serious effects shows that respondents were well informed about an adverse side effect (weight gain) but misinformed about an important benefit (protection against anaemia). Over 46% of respondents in each sample said that the pill increased the probability of weight gain. Forty percent or fewer of respondents in each sample thought taking the pill decreased the ability to breast-feed, except in the Egyptian and Costa Rican samples where over 70% held this opinion.

Virtually none of the respondents knew that the pill reduced the risk of anaemia, and a substantial percentage of African women thought that the risk of anaemia was increased—53% and 55% in the samples from urban and rural Egypt, respectively, 43% in Nigeria and 30% in Senegal. In the remaining samples, 12–28% thought that the risk of anaemia was increased.

Are the concerns about the pill's safety reflected in the personal experience of the respondents? Between 27% and 59% (except in the Egyptian and Sri Lankan samples) said that they knew of someone who had a serious health problem as a result of taking the pill (Table 3). The survey could not account for variations between samples in the number of social contacts, so this measure has limited comparability. However, the measure does illustrate that in addition to misleading publicity and rumours, there are ample instances of health problems attributed to the pill for women to form erroneous perceptions of its safety from personal communication.

The women's perceptions of the pill's safety have an important effect on its use; 26–60% of users (except in the Mexican sample) had stopped taking the pill because they worried about its safety and, for each sample, a lower or similar percentage of

Table 3. Personal experience with the pill (% distribution)

Country of sample	Users in sample	Had not used or stopped using pill because of concern about its safety		Knows someone who had serious medical problem because of pill
		Users	Never-users	
Thailand	50	60	29	37
Sri Lanka	19	26	25	3
Egypt: urban	76	32	17	3
rural	82	35	37	5
Senegal	46	34	42	42
Nigeria	37	54	29	38
Costa Rica	56	50	54	59
Chile	48	48	6	30
Mexico	41	7	20	27

never-users said they had not taken the pill for this reason. Therefore, misinformation about the pill's safety may reduce continuation of use to at least as great an extent as it prevents initial acceptance of the pill.

Philippines survey

In the Philippines, a survey of similar pattern to the eight-country survey was conducted by the Family Planning Organization of the Philippines with support from the International Health Foundation. The sample design differed from the other surveys in that each of the four, 100-respondent samples was composed of five subsamples from non-contiguous neighbourhoods and only currently married women aged 15–45 were interviewed. The two urban samples were taken in a low and middle income area of Manila and two rural samples were drawn from the province of Nueva Ecija in central Luzon.

Despite the difference in interview eligibility, the mean age and parity of the respondents in the samples were similar to the characteristics of the eight-country survey. Filipino women had a more favourable overall view of the pill than the samples from other countries (Table 4). Only 19–31% thought that the pill had substantial health risks. The Filipino respondents also viewed the safety of the pill relative to the risks of childbearing more favourably than did the other Asian samples but not as favourably as the African ones. The Filipino respondents were asked if the pill caused a health problem and an affirmative answer equated to a statement by a respondent in the eight-country survey that the pill increased the risk of the health problem. The Filipino respondents regarded the risks of headache, heart disease and the three types of cancer similarly to the eight-country survey respondents. The more favourable general perception of the pill's safety in the Philippines was reflected in only one specific health problem, sterility: 8–15% thought that the pill caused sterility compared with 20–61% of women in the eight-country survey. In contrast, Filipino

Table 4. Percentage of Philippines sample who thought that the pill caused health problems

	Urban		Rural	
	Middle income (N = 100)	Low income (N = 100)	Sample A (N = 100)	Sample B (N = 100)
Pill has substantial health risks	29	19	31	21
Pill safety compared with childbearing				
More risky	26	19	19	11
Equally risky	13	18	23	22
Less risky	56	63	52	64
Don't know	5	0	6	3
Pill causes				
Headache	67	64	48	66
Heart disease	32	36	17	18
Cancer	21	22	14	14
Sexually transmitted diseases	11	9	10	6
Sterility	15	12	10	8
Birth defects	41	43	27	36
Weight gain	65	60	58	76

perceptions of the risks of other reproductive effects, sexually transmitted diseases and birth defects, were similar to the other Asian samples.

The more extensive sampling of different socioeconomic strata in the Philippines showed that there was little consistent difference between the four samples in the overall perception of the pill's safety. For specific health problems, the rural samples were, in general, slightly less likely to think the pill caused the health problem. This difference was most noticeable where a lower percentage of the rural than of the urban samples thought that the pill caused heart disease and cancer.

Implications

The most striking finding in this survey is the similarity between samples in perceptions of the pill's health effects, despite the small numbers in each sample and the differences in socioeconomic levels between the countries' middle-class communities.

1. Taking the pill is considered to have substantial health risks by 50–75% and is considered to be more hazardous than childbearing by over 40% of respondents except those in the African samples.
2. Women who had or had not ever taken the pill are equally unaware of the serious cardiovascular adverse effects (e.g. about 10–35% of users and never-users thought that the risk of heart disease and stroke was increased).
3. The protective effects of the pill are virtually unknown.
4. The greatest inconsistency between scientific evidence and public perception is in the increased risk of sterility and birth defects attributed to the pill.

It is difficult to correct the perception of the pill in the general population but the perception has an important influence on women who are currently using the pill or considering taking it. Family planning counsellors and other professionals are well placed to modify this influence by providing information to counteract the prevailing concern about the pill's safety. Because counsellors may be concerned about scaring a patient, they may be reluctant to discuss common fears about taking the pill unless the patient expresses a specific concern. There may be unusual fears specific to certain areas but this survey shows that some fears are almost universal. So even if a woman does not express specific fears, at some time she will probably have some of these fears and a counsellor should anticipate this. The opinions of friends and family are probably a more important influence on pill use than rumours or adverse publicity (Tsui *et al.*, 1986; Porter, 1984). To counter others' misperceptions of the pill and rumours of its side effects, pill users can be prepared with information about problems which the pill does not cause—notably cancer, sterility, and birth defects. At the same time, the awareness of its adverse cardiovascular effects could also be improved, particularly among pill users.

As the management of the side effects of the pill improves and the safety of the newer formulations increases, the public perception of its safety should improve. Newer types of contraceptive steroids to be introduced in the next decade may have reduced the risks but similar concerns as to safety will remain. However, the pill will continue to be the mainstay of many family planning programmes throughout the world for the foreseeable future. Without active dissemination of the scientific evidence for the pill's safety, beginning with those who use it, the public misperceptions about safety will continue to hinder efforts to increase the use of effective family planning.

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