A Study of the Effectiveness of a Sexuality Education Programme

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Abstract

The aim of this research was to evaluate the effectiveness of sexuality education programmes in secondary schools by reviewing the existing literature and by designing an evaluative measure to be applied to a sexuality programme taught in two Auckland secondary schools.

Current research, supported by the authors' own findings, indicates that sexuality education does not promote increased sexual activity among adolescents. Although results are varied, it appears that most programmes are of limited effectiveness in terms of postponing initial intercourse or ensuring responsible contraceptive use. Certain factors emerge, however, such as the age of students participating in the programme and programme structure, which indicate more positive outcomes.

Introduction

At the time this study was undertaken, the authors were both practising school guidance counsellors who for some years had been responsible for developing and teaching sexuality education programmes. The motivation behind this study arose out of several major areas of concern.

New Zealand has one of the highest teenage pregnancy rates in the developed world. A number of New Zealand studies cited in Maskill (1991) indicate that the rate of sexual activity for under 16 year olds is about 29% for girls and about 40 % for boys.

Apart from the obvious trauma associated with unplanned pregnancy, the increased rate of sexual activity is often associated with a range of related health risks. There has been a great deal of media attention regarding the rate of genital warts and chlamydia in particular, and STDs in general, among young people. The incidence of these conditions is of great concern considering the possible long-term consequences of cervical cancer and infertility.

It is not only the physical health risks, however, which must be considered in relation to early sexual activity; there are often significant emotional costs. As counsellors, both authors have observed the negative effects of sexual pressure on many young people, and young women in particular, who have been coerced into sexual experiences which were neither emotionally nor physically satisfying. Given the pressure, from both peers and the media, placed on young people to become sexually active, we began to have increasing concerns that our sexuality education programmes were not inadvertently adding to this pressure.

We thus felt a responsibility to review the available literature to discover what evaluative studies had already been undertaken, and to develop evaluative measures which would indicate whether or not our own programmes were effective.

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Literature Review

There have been numerous studies of high school sexuality education programmes in the United States. We have summarised the findings of these studies into five categories:

Knowledge acquisition: Studies almost universally demonstrate that instruction in sex education does substantially increase knowledge about issues related to sexuality (Kirby, 1980; Kirby, 1984; Connell, Turner & Mason, 1985; Dawson, 1986; Kirby, Barth, Leyland & Fetro, 1991). What is not clear, however, is whether increased knowledge in the area of human sexuality translates automatically into more responsible decision-making and behaviour. Dryfoos (1991) states that the rate of sexual activity does not appear to change as a result of information acquisition, and Kirby, Barth, Leyland and Fetro (1991) state, "Knowledge about issues such as contraception is only weakly related to behaviour, and increased knowledge may not produce much of a reduction in risk-taking behaviour."

Change in sexual activity: One point that all the studies make clear is that the fears of some sexual education opponents, that sex education will increase sexual activity, are entirely groundless (Kirby, 1980; Parcel & Luttman, 1981; Zelnik & Kim, 1982; Kirby, 1984). The concern that sex education in high school will make students more sexually active is not substantiated by the literature.

Whether sexuality education actually leads to a decrease in sexual intercourse among teenagers is less clear. Some studies report that programmes do not significantly decrease reported sexual intercourse (Kirby, 1984; Dryfoos, 1991). Recent studies of more comprehensive programmes, however, suggest that some appear to increase the clarity of participants' values (Kirby, 1985) and may increase the chance that a student who had not experienced coitus before commencing the programme would delay initiating intercourse (Kirby, Barth, Leyland & Fetro, 1991). This would seem to have implications for the timing of sexuality programmes. If they have some influence on delaying first intercourse, it would seem to be important to give students the opportunity of participating in a programme during early adolescence. This is especially important if we accept the findings of Kirby, Barth et al (1991), that suggest that once patterns of sexual intercourse and contraceptive use are established, they may be difficult to change.

Impact on contraceptive use: Several studies have examined the relationship between exposure to a sex education course and subsequent contraceptive use. The results are somewhat contradictory.

Studies by Shipley (1974), Zelnik and Kim (1982) and Marsiglio and Mott (1986) all indicate that young women who had sex education were more likely than those who had not to have used some method of contraception.

However, a study of a comprehensive sexuality education programme developed by Richard Barth (Kirby, Barth, Leyland & Fetro, 1991) showed that while the programme significantly increased the use of contraceptives among the students who initiated intercourse within six months of completing the programme, it had no effect on the use of birth control among those who had initiated intercourse prior to exposure to the curriculum. This further supports the view that sexuality education programmes are best taught early before risk-taking behaviour has become well-established.

The one type of programme that did consistently show a measurable impact on both the use of birth control and pregnancy rates was a classroom education programme provided in conjunction with a school-based clinic that offered health and contraceptive services (Kirby, 1980). In this programme, the same staff are involved in both teaching in the classroom setting and in counselling and the provision of contraceptives in the clinic. Within three years of the introduction of this type of programme at St Paul's, Minnesota, the child-bearing rate of teenagers was cut by 56% (Kirby, 1980). It would seem that programmes that go beyond talking about desired behaviour and directly facilitate this behaviour are markedly more effective than programmes that are limited to the classroom.

Attitudinal change: The effect of sex education courses upon students' attitudes is

somewhat harder to measure. However, one well designed high school experiment quoted in Kirby (1980) showed a clear increase in students' ability to make their own sexual decisions later in life. Parcel and Luttman (1981) found students became more accepting of kissing, petting and intercourse within a caring, loving or committed relationship and less accepting of these activities within a relationship without affection, love or commitment. Kirby (1984) also showed that some of the longer programmes produced significantly greater opposition to the use of pressure and force in social and sexual relations.

Evidence from one study (Connell, Turner & Mason, 1985) indicates that students' reported attitudes and practices benefit dramatically from a second exposure to sexuality instruction. Measurements of behavioural and attitudinal change in the second year showed improvements far closer to knowledge gains than did those who had only a single exposure to instruction. This obviously has important implications for those attempting to structure an effective programme. One important perceptual change noted in the recent study by Kirby, Barth, Leyland and Fetro (1991) is in students' beliefs about the percentage of their peers who are sexually active. If students significantly overestimate the percentage of sexually active adolescents (and informal surveys reveal that they consistently do this)[1] this is likely to add to the pressure on them to initiate sexual activity.

The 'abstinence' programmes have been quite widely evaluated in terms of attitudinal change (Christopher & Roosa, 1990). In all cases attitudes became significantly less accepting of premarital intercourse in the short-term, but when long-term effects were measured it was found this attitudinal change had greatly diminished. Such programmes had little impact on delaying intercourse or reducing its frequency (Christopher & Roosa, 1990).

Other factors influencing sexual behaviour: In order to make a realistic assessment of the potential effectiveness of sexuality education, it is important to consider the wider context of adolescent culture.

Stout and Rivara (1989) conclude that it is unreasonable to expect a classroom course alone to change sexual behaviour and compete with the adolescents' sexual world as shaped by the media. "To place the burden (on our schools alone) for counteracting the prevailing forces of our society towards pre-marital sex is both naive and inappropriate" (Stout & Rivara, 1989). This argument is supported by Kirby (1980) who also suggests that it may be unreasonable to expect a single sexuality programme "to suddenly overcome 15 years or so of sex-role double standards, sexual images in the media and guilt over sexuality."

It is our experience that young women are often very aware of what they want, or rather what they do not want, with regard to sexual experience, but lack the resources to withstand powerful socialisation forces which assign women and girls to a subordinate social role.

The paradox implicit in sexual double-standards reinforces the difficulty young women face in order to be sexually responsible. Kirby and Alter (1980) suggest that sexual guilt discourages the recognition of one's sexual activity and thereby hinders the use of effective contraception.

Mitchell and Brindis (1987) concluded that most studies have found that the majority of the teenage population appear to be at risk for about a year between initiation into sexual relations and adoption of effective contraception. They attribute this risk-taking behaviour in part to a lack of cognitive ability to understand the consequences of early childbearing, but also suggest that the motivation to prevent pregnancy is closely "linked to an individual's perception of other possible life alternatives".

Dryfoos (1990) describes the high correlation between various at-risk behaviours of adolescents such as early sexual activity, truancy, alcohol and drug abuse. The underlying common factor identified is low self-esteem and a perceived lack of ability on the part of the adolescents to make choices or affect their future direction.

Thus it must be asked, how realistic is it to expect sexuality education programmes alone to change behaviour, considering the myriad of other influences impinging on the adolescent world? No other school programme is evaluated

on its ability to influence behaviour **outside** the classroom.

Evaluation of a Specific Sexuality Education Programme

The next stage in our research plan was the evaluation of the effectiveness of the programme we had developed, which was being taught in two Auckland secondary schools. [2]

The first level of the programme was designed to be taught at third form level, although at one of the schools in this study it was implemented with the fourth form. In both schools the second level was taught at fifth form level.

The first level included: puberty and periods; relationships and decision making; sexual abuse; contraception; and sexually transmitted diseases. The second level built on and developed at greater depth the topics covered in the first level of the programme, and included: gender role stereotyping; talking about feelings; relationships; decision-making; unplanned pregnancy; contraception; sexually transmitted diseases, including AIDS; and rape.

All the teachers involved in this study were highly skilled and experienced in teaching sexuality education programmes. The programme was taught using an interactive process that drew on students' existing knowledge and experience, enabled them to participate actively in the learning process and provided them with opportunities to practice skills.

Research Goals: The purpose of this study was to determine whether or not knowledge about sexuality was increased as a result of the programme, and whether or not there were differences in knowledge gains between level 1 and level 2.

In view of the research findings with regard to the effectiveness of the timing of intervention, a second goal was to determine the rate of sexual activity at each level at the commencement of the programme.

Our third goal was to establish if there had been attitudinal change towards contraceptive use and sexual decision-making, as a result of the programme. We also attempted to measure students' perceived confidence in their own decision-making skills. We recognise that self-report has limitations in terms of predicting behavioural change, and that the only accurate measurement of behaviour change could be achieved through a longitudinal study. We believe, however, that students' own perceptions of changes in thinking with regard to their sexuality are of value, and that increased knowledge and clarification of values may be a determining factor for a significant number of students.

Methodology: The research was carried out in two large co-educational Auckland secondary schools. School A drew on a predominantly middle-class population while School B was located in a somewhat lower socio-economic area.

Experimental and control groups were established in both schools. The groups were selected from the health education classes in each school. As far as possible, groups were matched for numbers, age, gender distribution and ability level. [See Figure 1 - Sample Size next page]

All groups were given a pre-test designed to measure existing knowledge, level of sexual activity and contraceptive use.

The programme was then delivered to the experimental group at each level. Ten weeks after the first test was administered both groups then completed an identical knowledge post-test. The experimental group was also asked to evaluate the programme with particular focus on self-reported attitudinal change.

Results: For both levels 1 and 2, there were significant increases in knowledge when compared with the control group over the same period of time.

At level 2, the experimental groups increased their knowledge scores by an average of 22% and 22.4% at School A and School B respectively, compared with a 2.4% and 1.8% increase for each control group.

At School B however, the average increase among the experimental group was 13% at level 1, compared with School A's increase of 22%. It is interesting to note that in School B, because of timetable constraints the level 1 programme

Figure 1 - Sample Size

Experimental Group		Female	Male	Total
School A	Level 1	11	13	24
	Level 2	11	11	22
School B	Level 1	8	5	13
	Level 2	15	12	27
Control Group		**Female**	**Male**	**Total**
School A	Level 1	12	14	26
	Level 2	7	13	20
School B	Level 1	9	6	15
	Level 2	10	7	17

Figure 2 - Percentage of Students at each Level who had Sexual Intercourse before commencing Sexuality Programme.

Level 1 (13-14 yrs)	Female	Male	Total
School A	13 %	3.6%	7.8%
School B	29%	0	17.9%
Total Sample	20%	2.7%	11.3%
Level 2 (15-16 yrs)	**Female**	**Male**	**Total**
School A	26.3%	30%	28.6%
School B	41.6%	31.6%	36.4%
Total Sample	34.9%	30.2%	32.6%

was approximately half the length of the level 1 programme at School A and both the level 2 programmes.

The percentage of students who reported having had sexual intercourse before beginning the programme was consistent with the findings of other New Zealand studies.
[See Figure 2 above]

One difference that emerged between the two schools, however, was the higher rate of sexual activity among girls in School B at both levels. It is interesting to note that School B draws from a predominantly working class population compared with School A whose students come from mainly middle class families.

Of the thirty-seven students in the survey who had had sexual intercourse, twenty-seven (73%) reported having had unprotected sex at least once. The most commonly stated reason for not using contraception was a failure to anticipate sexual activity. This supports Lindemann's (1974) hypothesis that planned sex can be incongruent with adolescent self-image.

Twenty-three (64%) of the sexually active students had used contraceptives at some stage. The two most common sources of contraceptive information were stated as being parents and school sexuality programmes, closely followed by friends. Virtually all level 2 students who used contraceptives mentioned that their level 1 sexuality education course had been one of their primary sources of information about contraception.

In the post-test, students who had completed the programme were asked whether they felt the

programme had influenced the likelihood of their using contraceptives in the future. Ninety-five point four percent of the students who responded felt that the programme would have an impact and of these, 100% stated that they felt it would make them more likely to use contraceptives.

After having completed the programme, when asked to assess what factors would influence their decisions as to whether or not to have sex, over half (55%) of students mentioned contraception as an important prerequisite in comparison with only a little over a third (37%) in the pre-test. The need to consider the possibility of contracting STDs as a factor was also mentioned by a much larger number of respondents in the post-test - 25% compared with 15%. Peer pressure, which was mentioned by 5% of the students in the pre-test, disappeared completely in post-testing. The need to take age and personal 'readiness' into account increased slightly in the post-test.

In the pre-test, students were also asked if they had ever been pressured to go further than they wanted to in a sexual situation. Twenty-three percent of the students said they had experienced this type of pressure. Of these, about half said they had failed to deal with it successfully. The main reasons to which they attributed their failure were their inability to say no without hurting the feelings of their partner, fear of rejection by their partner, or their level of alcohol consumption. Two girls had been scared of physical force.

When the students who had completed the programme were asked to assess whether they would deal with pressure differently, 78.5% believed they would. They gave a wide variety of reasons but the sorts of statements that consistently came through were: "Because I now know how to say no." "I can stand ground on my own feelings." "I feel I can respect my body more and I have the strength to say no." "I feel I've learnt how to really stand up for myself." Of the few students who felt the programme would not change the way they dealt with pressure, all but one commented that they had already developed effective techniques. "I'm happy with the way I've dealt with it in the past."

The students in the experimental group who were not already having sexual intercourse were asked to assess whether they felt the programme would influence their decision about when to start a sexual relationship. Seventy-five point five percent believed that it would, and made comments like, "I'll take more care to work out what's right for me." "I'd have to be really sure I was ready." "I won't have sex just because all my friends are doing it." "I've learnt more about the diseases out there - I'll be more careful." "I feel stronger about waiting until I'm older."

Eighty-six percent of the smaller group of students in the experimental group who had sexual intercourse before the programme started, also believed it would influence future decisions about their sexual behaviour: "I won't have sex again without contraceptives." "I would be more careful about who and when." "I think I might wait a while before I have sex again." "It has made me think a lot more - all the risks I might be putting myself in."

As a final evaluation of the programme, the students were asked to rate it in terms of interest and usefulness. At both levels over 75% of the students rated the programme as either 'interesting' or 'very interesting', and over 80% rated it 'useful' or 'very useful'.

At the end of the post-test, students were asked to comment on whether they thought anything else could be done to decrease the likelihood of teenagers having sex without contraception. The one comment that consistently emerged was the need for ready access to contraceptives. This supports the evidence of the school-based clinic programmes in reducing teenage pregnancy rates.

Conclusion

The programme was clearly an important source of contraceptive knowledge which, we would argue, must be expected to have some impact on contraceptive use for a number of students who participated in the programme.

The most consistent finding in other studies we reviewed is that sexuality education does not increase sexual activity. Given that our study was neither longitudinal nor did it measure behaviour, it is not possible to claim that our findings substantiate this conclusion. When asked to assess the impact of the programme on

their sexual behaviour and future contraceptive use, however, students in our study made comments that consistently demonstrated a more careful approach to sexual activity than was evident prior to the programme.

Students also reported a marked increase in confidence in dealing with sexual pressure. We have attributed this self-reported confidence to the opportunity the interactive process provides students to practise decision-making skills. The degree to which this confidence is transferable to 'real-life' situations of sexual pressure is nevertheless open to question. We maintain, however, that greater perceived control over decision-making increases the likelihood of a positive outcome.

The findings of Barth (Kirby, Barth, Leyland & Fetro, 1991) indicate that it is easier to influence sexual decision-making before patterns of sexual activity are established. Assuming this to be so, then the marked increase in numbers of sexually active students from the end of the third form to the beginning of the fifth form is a strong indicator for comprehensive sexuality education programmes to be implemented at third form level.

If we, as a community, are serious about reducing the rate of unplanned teenage pregnancies, the authors make the following recommendations:

* that considerably more money be provided for training of sexuality educators;
* that sexuality education programmes be implemented in every New Zealand secondary school, beginning no later than the third form;
* that contraceptives be made more readily available to adolescents, preferably through school-based clinics which operate in conjunction with comprehensive sexuality education programmes.

Footnotes

1. A survey by the authors of this article of approximately 300 third form students at a large co-educational school in Auckland revealed that nearly 70% of students significantly overestimated the number of girls in New Zealand who have had sex before their sixteenth birthday.
2. The sexuality programme developed by the authors and used in this research project has since been published under the title **Challenges and Change**. It is available from the New Zealand Family Planning Association.

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