

Zeitschrift: Studies in Communication Sciences : journal of the Swiss Association of Communication and Media Research

Herausgeber: Swiss Association of Communication and Media Research; Università della Svizzera italiana, Faculty of Communication Sciences

Band: 5 (2005)

Heft: 2

Artikel: Health literacy, sex education and contraception : the Singapore experience

Autor: Erramilli, M. Krishna / Sharma, Piyush / Chung, Cindy M.Y.

DOI: <https://doi.org/10.5169/seals-790931>

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 20.02.2026

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

M. KRISHNA ERRAMILLI, PIYUSH SHARMA, CINDY M. Y. CHUNG* & BHARADHWAJ SIVAKUMARAN**

HEALTH LITERACY, SEX EDUCATION AND CONTRACEPTION: THE SINGAPORE EXPERIENCE

Health literacy is a major issue today for most governments and healthcare organizations. One of the critical areas is the inability of sex education efforts to alleviate the problem of teenage pregnancies in many developed countries on one hand and improve the contraception prevalence rates in developing countries around the world. In this paper, we investigate the issue of health literacy in Singapore in the context of reproductive health, sex education and contraception. We first review the extant literature in the health literacy, sex education and contraception followed by a discussion of the role played by various parties involved including the healthcare providers, male partners, friends, colleagues, family members, mass-media and internet. We also describe the findings of our empirical study in Singapore and suggest some directions for future research.

Keywords: abortion, contraception, education, healthcare, health education, health literacy.

* Nanyang Business School, Singapore, akemurali@ntu.edu.sg; PSharma@ntu.edu.sg; acchung@ntu.edu.sg

** Indian Institute of Technology, Chennai, bharath@iitm.ac.in

1. Introduction

For several decades sex education has sought to help young people around the world understand the physical changes associated with puberty, the biology of reproduction and responsibilities of family life. However, its coverage of contraceptive methods has been quite controversial, with many believing that it may lead to increased sexual activity among teenagers, unwanted pregnancies, abortions and number of single mothers (Kenney & Orr 1984; Manzo 2004). On the other hand, other researchers argue that there is no conclusive evidence that increased sexual knowledge or access to birth control affects the likelihood of teenagers becoming sexually active (Guttmacher et al. 1997).

In view of these mixed signals there is a need for a more thorough examination of the issues affecting the decisions of young people around the world about sexual behavior and sexual responsibility, including media and social marketing campaigns; sexuality education; access to sexual health care services; and the influences of family, community, and religion on sexual attitudes, beliefs, and behaviors (Monk 2001). In this paper, we explore the issue of health literacy in Singapore in the context of reproductive health, sex education and contraception.

2. Sex Education: The International Experience

Introduction of comprehensive sex education in American schools coincides with an increase in teenage sex among girls from 29% in 1975 to 55% in 1990, increase in multiple partners from 14% in 1971 to 34% in 1988 and a 23% increase in teen pregnancies and deliveries from 1972 to 1990 (Hymowitz 2003). These observations seem to go against the assumption that educated or aware consumers would be able to make informed choices in matters concerning their health and well-being. America's difficulties with teenage pregnancies and abortion are also attributed partly to its continued ambivalence about chastity, childbearing and working (Gress-Wright 1993). American teens are shown to be both liberated (sexually active) and yet not liberated enough (low contraceptive usage). Improvements in the socio-economic situation of young women reduce the risk of teenage motherhood, while changes in family structure may increase this risk (Hogan et al. 2000).

Majority of adolescents in the United States, France, Germany, and the Netherlands have engaged in sexual intercourse by the age of 18 and

all these countries have experienced a decline in the age at onset of puberty (Berne & Huberman 2000). They have also seen a drop in the age at first sexual intercourse and a rise in the age at marriage, creating a 12- to 15-year gap between the two events. However, US teens initiate sexual intercourse about 1 year earlier (age 16), have more partners and report less use of effective contraception, except condoms (Moore et al. 1998). Nearly half of US sexually active teens have unprotected sex, accounting for the higher rates of birth, abortion, and sexually transmitted diseases (STD) than their European counterparts.

In Europe, Netherlands has one of the world's lowest teenage live-birth and abortion rates (both at around 4 per 1000 women) compared to Britain, which has five times higher rates with almost 90,000 teenagers becoming pregnant in the UK every year (Hollander 2004; Short 2004). Adolescent sexual health in Netherlands, Germany and France is based on values of rights, responsibility, and respect wherein the government and the general society consider it not only a duty to provide accurate information and confidential contraceptive services to the young, but also an important part of the adolescents' rights (Lottes 2002).

In Asia, UNAIDS recently funded a study in 11 South-East Asian countries including Brunei, Cambodia, China, Indonesia, Malaysia, Mongolia, Myanmar, the Philippines, Papua New Guinea, Thailand and Vietnam (Smith et al. 2003). The Findings suggest that the education provided is largely information-based, but with a developing emphasis on life-skills such as assertiveness and negotiation. Specific sexual practices are rarely discussed in the region's schools, except in a somewhat mechanistic way, focusing mainly on human reproduction and anatomy. However, countries most affected by the AIDS epidemic are beginning to re-think their approaches resulting in an increasing openness about sexual and drug injecting practices, and communication of these issues with young people.

3. An Introduction to Singapore

Singapore is a small island nation in South-East Asia consisting of a large main island with 63 surrounding islets. However, its compact size belies its economic growth and in just 150 years since its founding by Sir Stamford Raffles, Singapore has grown into a thriving centre of commerce and industry. Today it is the busiest port in the world with over 600 shipping lines sending super tankers, container ships and passenger

liners to share the busy waters with coastal fishing vessels and wooden lighters. One of the world's major oil refining and distribution centres, Singapore is a major supplier of electronic components and a leader in shipbuilding and repairing. It has also become one of the most important financial centres of Asia, with more than 130 banks. Singapore's strategic location, excellent facilities, fascinating cultural contrasts and tourist attractions contribute to its success as a leading destination for both business and pleasure (Chew & Lee. 1991; Makepeace et al. 1991; Turnbull 1977; Yew 1998).

Notwithstanding its spectacular success in just under forty years since achieving independence, Singapore had a very humble origin as a fishing village and a small trading outpost at the dawn of British Empire in South-East Asia (Buckley 1953; Warren 2003). Its population today consists mainly of descendents of migrant workers who were transported from poor villages in India, China and other neighboring Asian countries to work in the tin mines and rubber plantations. Over the last century, the next generations of these workers reaped the benefits of education and wide opportunities in a growing economy to raise their economic status. However, in their personal lives and social relationships many Singaporeans still continue to hold their traditional conservative values such as filial piety and respect for elders.

The conservative nature of Singaporean society is reflected in various spheres of its day-to-day activities. For example, in spite of English being the most commonly used language, all Singaporeans are expected to undergo formal education in their mother tongue such as Mandarin, Malay or Tamil. They also celebrate their religious and cultural festivals with great fervor and fanfare including the Lunar New Year for the Chinese, Deepavali for the Indian Hindus and Hari Raya for the Malay Muslims. There is great degree of superstition observed in some communities with festivals like "Hungry Ghost" being observed in all seriousness. The Chinese continue to burn paper currency and other valuable possessions made in paper to please their ancestors. Singaporean also seem to believe in fate a lot and legalized gambling is quite popular as evident from the serpentine queues outside the lottery outlets every evening. The sexual attitudes of Singaporeans also seem to reflect similar conservatism despite all the economic progress made in the last few decades. The letters and articles are published regularly in local newspapers decrying overt expression of sexuality in the media and expressing grave concerns over the increase in teenage sex and abortion rates. In view of all

these trends, Singapore Government has been making several efforts to promote health education in general among Singaporeans. There are regular advertisements in local media promoting healthy eating habits, importance of exercise and controlling one's BMI (Body Mass Index) and other healthy practices in one's daily life. However, the incidence of Hypertension, Diabetes and various other similar disorders is on the rise in spite of these communication efforts.

4. Sex Education in Singapore

In Singapore, sex education was covered for many years as a part of Health Education in the upper primary levels, and Science, Civics and Moral Education, and Pastoral Care curriculum in the secondary and above levels. Schools also engaged external organizations such as Ministry of Health, family service centres, the Singapore Planned Parenthood Association and others, to conduct talks and seminars for pupils. However, it was not always delivered in a meaningful manner that addressed the adolescent pupils' needs mainly because on one hand, the teachers and parents were not adequately prepared to discuss these issues with students and on the other students were not ready to discuss such topics openly with their class teachers.

A survey by Singapore Planned Parenthood Association in 1999 showed that among the 2,400 respondents aged 12-21, about 3.4% or 85 individuals professed to be sexually active. The average age at the onset of sexual activity among these youths was in their mid-teens, i.e., at age 14-15 years. Moreover, public concern surfaced from time to time over teenage pregnancies, abortions, HIV infection, abandonment of babies by teenage parents, sexual abuse of children, sexually transmitted diseases and out-of-wedlock pregnancy (e.g. The Straits Times 2000). In response to these concerns, the Ministry of Education (MOE) embarked on a systematic review of sexuality education in Singapore schools and after much deliberation and consultation with educationists, counselors and parents, it developed a new comprehensive Framework on Sexuality Education, and produced additional teaching resources in the form of a "Growing Years" multi-media package (Wong 2000).

The "Growing Years" series was expected to provide the schools with teaching resources to present sexuality education in a more holistic manner to students at the four critical growth stages: upper primary (11-12 years of age), lower secondary (13-14 years), upper secondary (15-16

years) and post-secondary (17-18 years) stages. It covered four broad themes - human development, which dealt with the physiological changes during adolescence and the psychological impact of these changes; interpersonal relationships, which covered skills and values for forming healthy relationships with members of the opposite sex; sexual health and behaviour, which dealt with issues such as the consequences of sexual behaviour; and society and culture, which looked at the social and cultural influences on the way the young learn about and express their sexuality.

While it may be a little early to assess the impact of the "Growing Years" program in a systematic manner, it would be useful to explore the current status of health literacy in Singapore the context of sex education and contraception. This may provide useful insights to the organizations responsible for ensuring a high standard of reproductive health in Singapore.

Next we describe the findings from an empirical study conducted in Singapore wherein we surveyed 1000 females in the 15-44 years age-group to assess their attitudes towards and usage of contraception, and to explore the role played by key influencers in this product category.

5. Contraception in Singapore

We found a fairly high current usage of contraception (62%) in Singapore. In fact, an even larger proportion (78%) had used contraception in the past but some of them had stopped using it because either they were less sexually active or due to pregnancy-related reasons. Condom was found to be the most popular method (26%) but the usage of Withdrawal & Rhythm methods was also very high (20%). IUD and sterilization were popular among older women (> 35) and all other methods such as pills were not very popular. In fact, most women had used multiple methods in the past (71%) and many (48%) had stopped using pills within a year. Almost half (48%) of the single women claimed to be sexually active and most of them seemed to rely on Condom (53%) or Withdrawal method (28%) with pills a distant third (10%).

Singapore has one of the highest literacy levels, world-class modern infrastructure, a globally competitive economy and very high standard of living especially when compared to its neighbors in SE Asia. However, many Singaporean women still seem to continue to rely on usage of unreliable contraceptive methods such as withdrawal and rhythm resulting in

unplanned pregnancies and abortions. Besides conservative social values, one of the main reasons for this may well be inadequate or inappropriate sex education in Singapore schools. We next discuss the role of various influencers and some implications for sex education efforts in future.

6. Healthcare Professionals

Many women in our study mentioned OB/Gynae specialists (59%) and General Physicians (42%) as their primary source of information about contraception. Married women relied more on the doctors' advice (GP 49%, OB 69%) compared to Singles (GP 26%, OB 36%). A similar trend was observed for Older (> 35) women (GP 54%, OB 74%) compared to younger (< 26) females (GP 30%, OB 40%). Prior research shows that family planning advice given at the first-level health facilities (e.g. GP Clinic) increases contraceptive usage (Cali et al. 2004). Hence, there is indeed a scope for a greater emphasis on the role played by healthcare providers in promoting awareness and knowledge about safe sexual practices and contraception.

7. Male Partners

Male partners play a very important role in contraceptive usage and choice of method, abortion, pregnancy, childbirth and infertility (Dudgeon and Inhorn 2004; Edwards 1994; Kate 1998; Kulczycki 2004). In our study we found majority of females (79%) considered their partner's opinion important in deciding whether to use contraception or not. Interestingly, more married women (87%) were influenced by their husband's opinion compared to the influence of boy-friends on single women's (65%) decision on contraception. A similar pattern was observed for the decision to choose a specific contraceptive method, with more married women (84%) influenced by their partner than singles (65%). This may well be a reflection of the increasing assertiveness and independent thinking among single women and their ability to take decisions on their own (Al Riyami et al. 2004; Alia & Cleland 2005). Moreover, many singles may not have stable relationships and hence, they probably do not rely much on their partner's opinion on an important issue such as contraception.

8. Peers – Friends and Colleagues

Teenagers in most developing societies are trying to balance the challenges of modern society and the influences of their cultural and social backgrounds, however their level of awareness and knowledge about contraception and risks of unsafe sex are still very low (Hendrickx et al. 2002). In our study we found a low overall reliance on friends and peers for information (33%), but significantly higher among young and single (49%) compared to older married females (26%). Younger women feel more comfortable talking about sex with someone of their own age and hence, peer-based sex education is at least as effective as adult-led instruction among teenage female students (Anonymous 2004; Kidger 2004). Therefore, it would be prudent to rely on more peer-based education programs for the younger women in schools and colleges whereas older women could be targeted through healthcare providers.

9. Family Members

Changes in the family structures in modern societies all over the world have significantly influenced the paths to family formation, childbearing patterns, roles of family members, economic well-being of families, contraception usage and abortion rates (Ahlburg & De Vita 1992; Berne & Huberman 2000). However, the distance between the modern teenagers and their parents is increasing and in many conservative societies they do not discuss matters related to sex or contraception (Bachar et al. 2002; Hymowitz 2003; Schubotz et al. 2004; Thompson 1990). In our study, we found a similar pattern with few (16%) women being influenced by their family members on usage of contraception or choice of method. Therefore, it is important to understand the dynamics of these changing family and social structures, and to incorporate these learnings into the communication messages and materials developed to educate young as well as older women about sexual health and contraception.

10. Mass-Media and Internet

Exposure to the mass media is related to childbearing behavior, preferences for smaller families, weaker son preferences, and tolerance of contraceptive use even in many erstwhile conservative societies in Asia and Latin America (Barber & Axinn 2004; Ellertson et al. 2002; Olenick

2000). On the other hand, mass-media may also have negatively influenced sexual learning among younger generations by inappropriate depiction of sexuality and gender roles (Feldman 2004; Shelov and Baron 1995). Moreover, it is seen that more and more individuals seeking confidential information on sexual health and contraception are increasingly turning to the Internet, despite a great deal of misinformation about various contraceptive methods available on different sites (Gainer et al. 2003; Weiss and Moore 2003).

In our study we found few women (11-12%) using Mass-media (e.g. TV, Newspapers) or Internet for information about contraception in Singapore, but many of them (25%) relied on women's magazines for this. However, more single women tended to rely on all these compared to married ones namely, 17% vs. 10% for Mass-media, 21% vs. 6% for Internet and 41% vs. 25% for Women's magazines. Interestingly, more singles relied on Internet (21%) compared to Mass-Media (17%) probably because of the anonymity of the Internet or due to the wide range of information available on it. As expected, more young women used Internet (21%) and magazines (38%) compared to older (4% and 17% respectively). From these findings, it is apparent that we need to understand the unique preferences of the various segments of our target audiences and use the right communication channels for each of those segments, to promote awareness and knowledge about issues related to sexuality and contraception.

11. Discussion and Directions for Future Research

In this paper, we explored the impact of sex education on the Singaporean women and the influence of healthcare providers (doctors, nurses and family planning counselors), male partners, friends, colleagues, family members, mass-media and internet. First, we found that the healthcare providers are indeed an important source of information for most women although the younger women tend to also rely on other sources of information such as friends and colleagues, women's magazines and the Internet. Next, we found that family and mass-media did not have a major influence on contraception choice and behavior among Singaporean women unlike women in other Asian countries as shown in other studies. We think it is because Singaporean society is in a unique position today, somewhat caught on the crossroads between a traditional conservative values and a modern lifestyle. Hence, the family seems to be losing its hold on the individual but they are still wary of relying on the mass-media too much.

Our research represents one of the few attempts to highlight the importance of health literacy in the context of sex education, reproductive health and contraception. Hopefully, this would attract attention from other researchers and lead to development of theoretical and conceptual frameworks and methodologies to further explore this fascinating emerging field. Specifically, researchers may identify health literacy programs introduced by governments and other agencies in various countries and explore the reasons for their success or failure. Such investigations would help in understanding the various pitfalls in the development and implementation of health education projects in different cultural and socio-economic settings.

Another important area for future research is the reasons for differences in the level of influence that different entities have on an individual's awareness, knowledge and practice of different healthcare issues. For example, in our study we found that sexual partners had a stronger influence on the decision to use contraception and the choice of contraceptive method, compared to family members and even healthcare professionals. Similarly, different media vehicles were found to have different levels of influence based on the age and education profiles; more of younger, better educated, working women relied on Internet and magazines compared to older, less educated housewives. Future research may be able to provide a deeper knowledge of the complex socio-psychological processes underlying these and other similar observations.

References

- AHLBURG, DENNIS A. & DE VITA, CAROL J. (1992). New realities of the American family. *Population Bulletin* 47/2: 2-44.
- AL RIYAMI, ASYA et al. (2004). Women's Autonomy, Education and Employment in Oman and their Influence on Contraceptive Use. *Reproductive Health Matters* 12/23: 144-154.
- ALIA, MOHAMED M. & CLELAND, JOHN (2005). Sexual and reproductive behaviour among single women aged 15-24 in eight Latin American countries: a comparative analysis. *Social Science & Medicine* 60/6: 1175-85.
- ANONYMOUS (2004). United Kingdom teens prove to be good sex educators. *Contemporary Sexuality* 38.
- BACHAR, R. et al. (2002). Attitudes of mothers toward their daughters' use of contraceptives in Israel. *Contraception* 66/2: 117-20.
- BARBER, JENNIFER S. & AXINN, WILLIAM G. (2004). New ideas and fertility limitation:

- The role of mass media. *Journal of Marriage & the Family* 66/5: 1180-200.
- BERNE, LINDA A. & BARBARA K. HUBERMAN (2000). Lessons Learned: European Approaches to Adolescent Sexual Behavior and Responsibility. *Journal of Sex Education & Therapy* 25/2/3: 189-199.
- BUCKLEY, CHARLES BURTON (1953). *An Anecdotal History of Old Times in Singapore*, Singapore: Oxford University Press.
- CALI, S.; S. KALACA, & SARIKAYA, O. (2004). Minimizing missed opportunities: an approach to decrease the unmet need for family planning. *European Journal of Contraception & Reproductive Health Care* 9/4: 285-289.
- CHEW, ERNEST C. T. & LEE, EDWIN (1991). *A History of Singapore, Malaysia*: Oxford University Press.
- DUDGEON, MATTHEW R. & INHORN, MARCIA C. (2004). Men's influences on women's reproductive health: medical anthropological perspectives. *Social Science & Medicine* 59/7: 1379-1395.
- EDWARDS, SHARON R. (1994). The Role of Men in Contraceptive Decision-Making: Current Knowledge and Future Implications. *Family Planning Perspectives* 26/2: 77-82.
- ELLERTSON, CHARLOTTE et al. (2002). Information campaign and advocacy efforts to promote access to emergency contraception in Mexico. *Contraception* 66/5: 331-37.
- FELDMAN, S. (2004). Why I'm Glad My Daughter Had Underage Sex. *Humanist* 64/6: 7-10.
- GAINER, ERIN et al. (2003). Surfing on the morning after: analysis of an emergency contraception website. *Contraception* 67/3: 195-199.
- GRESS-WRIGHT, JESSICA (1993). The Contraceptive Paradox. *Public Interest* 113/Fall: 15-25.
- GUTTMACHER, S. et al. (1997). Condom Availability in New York City Public High Schools' Relationships to Condom Use and Sexual Behavior. *American Journal of Public Health* 87: 1427-1433.
- HENDRICKX, KRISTIN et al. (2002). Sexual behaviour of second generation Moroccan immigrants balancing between traditional attitudes and safe sex. *Patient Education & Counseling* 47/2: 89-94.
- HOGAN, DENNIS P. et al. (2000). Sexual and Fertility Behaviors of American Females Aged 15-19 Years: 1985, 1990, and 1995. *American Journal of Public Health* 90/9: 1421-1425.
- HOLLANDER, DORE (2004). Sex Education Utopia? *Perspectives on Sexual & Reproductive Health* 36/4: 141.
- HYMOWITZ, K.S. (2003). What to tell the kids about sex. *Public Interest* 153/Fall: 3-18.
- KATE, N.T. (1998). Choosing and Using Contraception. *American Demographics* 20/6.
- KENNEY, A.M. & ORR, M. T. (1984). Sex Education: An Overview of Current Programs, Policies, and Research. *Phi Delta Kappan* 65/7: 491-496.

- Kidger, Judi (2004). You realise it could happen to you: the benefits to pupils of young mothers delivering school sex education. *Sex Education* 4/2: 185-197.
- Kulczycki, Andrzej (2004). The determinants of withdrawal use in Turkey: A husband's imposition or a woman's choice? *Social Science & Medicine* 59/5: 1019-1033.
- Lottes, Llsa L. (2002). Sexual Health Policies in Other Industrialized Countries: Are There Lessons for the United States? *Journal of Sex Research* 39/1: 79-83.
- MAKEPEACE, W.; BROOKE, G.E. & BRADDELL, R.ST.J. (1991). One Hundred Years of Singapore, Singapore: Oxford University Press.
- MANZO, KATHLEEN KENNEDY (2004). Texans Wrangle Over Contraception in Texts. *Education Week* 23.
- MONK, DANIEL (2001). New guidance/old problems: recent developments in sex education. *Journal of Social Welfare & Family Law* 23/3: 271-291.
- MOORE, K.A.; DRISCOLL, A.K. & DUBERSTEIN, L.A. (1998). A statistical portrait of adolescent sex, conception and childbearing. National Campaign to Prevent Teen Pregnancy. Washington, DC: Advocates for Youth.
- OLENICK, I. (2000). Women's Exposure to Mass Media Is Linked to Attitudes Toward Contraception in Pakistan, India and Bangladesh. *International Family Planning Perspectives* 26/1: 48-50.
- SCHUBOTZ, DIRK et al. (2004). Sexual behaviour of young people in Northern Ireland: first sexual experience. *Critical Public Health* 14/2: 177-190.
- SHELOV, STEVEN & BAR-ON, MIRIAM (1995). Sexuality, contraception, and the media. *Pediatrics* 95/2: 298-300.
- SHORT, R. V. (2004). Teaching safe sex in English schools. *The Lancet* 364.
- SMITH, GARY et al. (2003). HIV/AIDS School-based Education in Selected Asia-Pacific Countries. *Sex Education* 3/1: 3-21.
- THE STRAITS TIMES (2000). Opinion Poll on Sex Education in Singapore Schools. Singapore.
- THOMPSON, SHARON (1990). Putting a Big Thing into a Little Hole: Teenage Girls' Accounts of Sexual Initiation. *Journal of Sex Research* 27/3: 341-361.
- TURNBULL, C. MARY (1977). A History of Singapore 1819-1975. Hong Kong: Oxford University Press.
- WARREN, JAMES FRANCIS (2003). Rickshaw coolie: a people's history of Singapore 1880-1940. Singapore: Singapore University Press.
- WEISS, EVE & MOORE, KIRSTEN (2003). An assessment of the quality of information available on the internet about the IUD and the potential impact on contraceptive choices. *Contraception* 68/5: 359-364.
- WONG, ALINE (2000). Launch of the sexuality education framework and the Growing Years series, Singapore: Ministry of Education.
- YEW, PETER & KUAN, LEE (1998). The Singapore Story, Singapore: Prentice Hall.