



The medicalisation of ‘tall’ girls: A discourse analysis of medical literature on the use of synthetic oestrogen to reduce female height[☆]

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ABSTRACT

Endocrine research in the 1930s increased and extended the use of sex hormones as medical therapies in an unprecedented way, especially for female ailments. In the 1950s the therapeutic use of sex hormones extended to the treatment of ‘tall’ girls. Ambiguity in the definition of the ‘tall’ girl, the arbitrary nature of the treatment decision, and diversity in the therapeutic regimes highlight the problematic nature of this medical practice. Using linguistic repertoires to study the political and ideological implications found in the patterned use of language, this paper reports on a discourse analysis of the medical literature on treatment of tall girls between the 1950s and 1990s, when this treatment was at its peak. Three linguistic repertoires emerged: the institutional authority of medicine to determine the ‘abnormality’ of tall stature in females; the clinical knowledge and experience in the diagnosis of medical risk associated with tall stature in women; and using hormones as cosmetic therapy to (re)produce femininity in tall girls. All three related to the maintenance of the cultural representations and social expectations of femininity. With no evidence of psychological harm associated with tall stature in women, and no long-term studies of either effectiveness or benefit, over five decades clinicians persuaded themselves and their patients that tall stature required therapeutic intervention. The treatment of tall girls with high dose oestrogen must be viewed as the medicalisation of a normal physical attribute adversely related to the social construction of gender.

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Background

Moving away from the accepted theory of human physiological regulation through the nervous system, many medical scientists and clinicians during the later half of the nineteenth century postulated the possibility of chemical regulation (Sengoopta, 2000); and from the beginning of the twentieth century until the 1940s, the emerging medical discipline of endocrinology fostered one of the most dynamic areas of biomedical research, establishing

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an important relationship between pharmaceutical research and clinical practice (Lawrence, 1999). This early phase of endocrinology, described as a ‘combination of science, fantasy and speculation’ (Hoberman, 2005: 36) and an ‘endocrinological gold rush’ (Rasmussen, 2002: 125) extended the possibilities for using hormones as medical therapies and opened up a field of medical intervention in an unprecedented way (Oudshoorn, 1994).

Oestrogen, as ovarian extracts, were used to treat menstrual disorders in the early years of the twentieth century (Davis, Dinatale, Rivera-Woll, & Davison, 2005), rapidly growing in the 1920s to include the treatment of psychiatric disorders, dermatological ailments, diseases of the joints, and a wide range of unconnected conditions including ‘hair loss, eye disorders, diabetes, haemophilia and even chilblains’ (Guillemin, 2001; Oudshoorn, 1994: 93). Such diverse therapeutic applications illustrate the acceptance of oestrogen as a ‘universal medicine’ for women (Oudshoorn, 1994:92) which proliferated further with the development of synthetic oestrogen in the 1930s. Victorian ideas about the physical frailty and psychological instability of middle-class women provided the backdrop for the rapid development and

commercialisation of oestrogen; and sex hormones have been described as ‘drugs looking for diseases’ (Oudshoorn, 1994: 108), ‘technologies’ whose historical trajectory involved economic and medical opportunism (Guillemin, 2001: 50).

Many argue that Victorian cultural images of masculinity and femininity embedded in science-based practices went unquestioned (Roberts, 2007) and sex hormones were seen as ‘the missing link between the genetic and the physiological models of sex determination’ (Oudshoorn, 1994: 21). The medical use of oestrogen was ‘inextricably enmeshed with cultural ideals about femininity’ (Oudshoorn, 1994: 88). The ovary, through its release of female sex hormones, replaced the uterus as the governing organ of the female body (Gannon, 1998; Sengoopta, 2000), and sex hormones were advocated as medical therapies for a variety of predominantly female ‘ailments’ (Coney, 1991). This ‘hormonalization of women’ was forged in the symbiotic relationship between the pharmaceutical industry and medical practitioners where women became the focus of pharmaceutical research, clinical practice and the marketing of sex hormone therapies (Bell, 1995: 407).

Pharmaceutical companies foresaw a promising market in the manufacture and therapeutic use of oestrogen, and were involved in the isolation and extraction of hormones from human placentas, animal ovaries, and the urine of pregnant women and horses (Davis et al., 2005; Hausman, 1999). The medical use of sex hormones extended with each new oestrogen isolated or synthesised and marketed. One of the first synthetic oestrogens widely used was Diethylstilbestrol (DES). Cheap to prepare, DES was prescribed ‘as a morning after pill’, and used to ‘suppress lactation, prevent miscarriage, and treat menopause symptoms’ (Bell, 1995: 473). It was also used to reduce the height of tall girls in Australia (Wettenhall, Cahill, & Roche, 1975). Oestrogen was used therapeutically during the 1940s to stimulate growth and vigour in infants and children (Coney, 1991; Hausman, 1999; Hoberman, 2005), and promoted during the Second World War to increase the productivity and efficiency of female workers of mature-age (Hoberman, 2005).

In the 1950s oestrogens were advertised as an anti-aging therapy for women, promoted to enhance social stability, prevent disease and enhance sexual fulfilment, and aggressively marketed for the treatment of menopause symptoms as hormone replacement therapy (HRT) (Lorentzen, 2001). HRT reached its zenith in the 1960s with the publication ‘Feminine Forever’, a book written by American gynaecologist Robert Wilson (Wilson, 1966) who described menopause as a disease and promoted oestrogen as a means to remain youthful. Subsequent research highlighted the association between the medical use of oestrogen and an increased incidence of cancer in women (Sartwell, 1976; Smith, Prentice, Thompson, & Herrmann, 1975) and their children (Herbst, Ulfelder, & Poskanzer, 1971) which resulted in a decline in use. However oestrogen continued to be marketed as a replacement for cosmetic surgery as a ‘rejuvenation therapy’ (Gilman, 1999: 311) and used as a treatment for tall girls (Binder, Grauer, Wehner, Wehner, & Ranke, 1997; Drop, de Waal, & de Moinck Keizer-Schrama, 1998; de Waal, Torn, de Moinck Keizer-Schrama, Aarsen, & Drop, 1995).

The pharmaceutical companies’ enthusiastic promotion of oestrogen through the popular media (Coney, 1991; Goodman, 1980; MacPherson, 1981; Watkins, 2007), and the public’s passive acceptance of oestrogen as medical therapies (Hoberman, 2005) must be viewed within the social context of the times. The decades following the Second World War witnessed ‘a period of intense expansion of the pharmaceutical industry’ when it consolidated its relationship with medical practice (Greene, 2004: 272). Western societies also became more youth orientated (Watkins, 2007), ‘patients’ became health consumers, active in the pursuit of

information and access to treatments (Crawford, 1980), and the practice of medicine became associated with risk reduction rather than the treatment of disease (Rose, 2005). Many Australian women in the Tall Girls Study recall that their mothers first heard about the treatment of tall stature in the popular media (Rayner, 2008).

Class and gender have been enduring themes in the history of the medical use of oestrogen (Coney, 1991: 159; Sengoopta, 2000). Middle-class women have been the prime targets for the medical use of oestrogen (Watkins, 2007), not only because they can afford regular medical visits and expensive therapies, but because they ‘may be more inclined to regard physical attractiveness as an asset’ (Coney, 1991: 159). Similarly, some of the medical literature on the treatment of tall girls refers to the higher social status of the families seeking treatment (Colle, Alperin, & Greenblatt, 1977) and in Australia treatment of tall stature was primarily undertaken in private practice (Colle et al., 1977; Wettenhall et al., 1975) where parents, predominantly mothers were the primary initiators of assessment and treatment for their daughters (Bruinsma et al., 2006). Despite the increased awareness of patients’ rights, the girls (some as young as eight) had little agency in this decision-making (Pyett et al., 2005).

Synthetic oestrogen to reduce height

Very little information is available on the initiation of oestrogen as a treatment for tall stature in healthy adolescents. Its use, to reduce predicted adult height, was first proposed during the 1940s after the successful treatment of children with pituitary gigantism. In 1946 physicians in the United States (US) extended this use to the treatment of girls who were ‘becoming alarmed and unhappy about the extremes to which their exuberant, albeit normal growth was carrying them’ (Albright et al., 1946 cited in Crawford, 1978: 1189). The first paper reporting the ‘successful’ treatment of tall girls was published in 1956 (Goldzieher, 1956). Over the next four decades, the treatment of tall girls with synthetic oestrogen became an accepted clinical practice in many high-income countries – Australia, the US, European countries including France, Germany, the Netherlands, and Scandinavian countries Sweden, Norway and Denmark, despite acknowledged short-term side effects and no evidence of efficacy or long-term safety.

Treatment was based on the knowledge that in normal puberty oestrogen inhibits further increases in height by fusing the growth-plates of the long bones. However, the medical literature demonstrates a diversity of assessment and treatment practices. Ambiguity in the definition of the ‘tall girl’ and the arbitrary nature of the treatment decision highlights the problematic nature of this medical practice. Most clinicians considered treatment if a girl’s adult height was estimated to be above the 97th percentile on the growth charts or two standard deviations above the mean female adult height in the given population. Determination of adult height involved estimating bone age after an x-ray of the hand and wrist, to review the remaining growth potential. However, the accuracy of the various methods for calculating predicted height has been disputed (Joss, Temperli, & Mullis, 1992). The most favoured methods were the height prediction tables of Bayley and Pinneau (1952) or Tanner et al. (Tanner, 1962; Tanner & Whitehouse, 1976). As a consequence the height at which treatment was initiated varied considerably between countries and across time.

Diversity in clinical practices

The earliest papers reported a predicted height eligibility criterion for treatment of 173 cm (Bayley, Gordan, Bayer, Goldberg, & Stormont, 1962; Freed, 1958; Goldzieher, 1956) which gradually

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