Trends and Current Issues in Adult Fecal Incontinence (FI): Towards Enhancing the Quality of Life for FI Patients

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Abstract

Our goals are to review the literature on the definition and epidemiology of fecal incontinence (FI), the risk factors involved, available treatment options, and measurement of the quality of life (QOL) of patients with this condition. Articles included for review were searched following the guidelines set by Cochrane Reviewers’ Handbook. FI was defined variously depending upon the duration, type, and amount of leakage. About 17 published papers were reviewed on the prevalence of FI that ranged from 1.4% to 50%. Potential risk factors included perianal injury/surgery, and fair/poor general health. QOL assessment using various grading scales provided an objective method of evaluating patients before and after treatment. Management included medical, physiotherapy, and surgical options. Through the range of various references, a clear definition of FI should be specified, which reflects its epidemiology in the various studies. These differences in definition would significantly affect its prevalence. Many risk factors have been sited but further epidemiological studies are necessary to elucidate FI. Understanding the etiology of the disease is an important initial step to provide adequate treatment of FI. QOL assessment provides objective and subjective method in the analysis of effectiveness of therapy.

Key words: fecal incontinence, anal incontinence, epidemiology, risk factors, quality of life

Introduction

Fecal incontinence (FI) is the impaired ability to control gas and/or stool. Although it is not a potential life-threatening disease, symptoms of incontinence are often distressing and socially incapacitating (1).

The true prevalence of anal incontinence remains largely unknown. Studies have shown that individuals may not be forthcoming with symptoms of incontinence when questioned directly (1). Therefore, FI is often an under-estimated condition.

According to published reports, daily or weekly episodes of incontinence occur in approximately 2% of the adult population and in about 7% of healthy, independent adults over the age of 65 (2–4). When soiling is included in survey questionnaires, at least 5% of healthy subjects have experienced anal incontinence (5).

FI is the second most common cause of institutionalization in the elderly (6, 7). Among patients who are institutionalized, the prevalence may be as high as 25%. According to some reports, approximately one third of elderly people in retirement homes and hospitals are incontinent to stool (8, 9). FI is also a high cost condition: it causes expenses for over $400 million per year for FI appliances, just in the US. Although FI is a major problem in the elderly, much younger groups are also affected. In 45-year-old women, the incidence is eight times higher than in men of the same age (10).

The aim of the present paper is to review the literature on the definition and epidemiology of FI and to define the risk factors. Available FI scores and therapeutic options are also reviewed.

Methods

The review method followed the guidelines set in the Cochrane Reviewers’ Handbook 4.1.6 (11).
systematic review and determined the studies to be included. The authors checked the reference list of all relevant articles that were obtained (including those from previously published systematic reviews, conference proceedings, etc.).

Search strategy
Reference list of retrieved studies were searched, electronically and manually, including journals subscribed by Hokkaido University. The search terms used were: faecal or fecal and incontinence*, where * is a truncation symbol that retrieves variations of the indicated text.

The process of following up references from one article to another sometimes referred to as peeling, the ancestry approach, or citation chasing was also done. Additional potentially relevant, articles that were identified were retrieved and assessed for possible inclusion in the review.

Inclusion criteria
Original published articles on FI were searched on November 2002 to February 2003. Articles included for review were those from 1984 to 2002.

Inclusion criteria were: English written papers, specific type of studies (e.g., randomized control trials, controlled trials, or case series). All articles were required to provide information on at least one aspect of FI (see Table 1).

Data extraction and analysis
All relevant studies were assessed for level of evidence (Table 2), tabulated, and methodologically evaluated for appropriateness of study exclusion criteria, quality of reporting and possible confounding variables. All data and results of statistical tests were extracted from the papers. For particular outcomes, papers were included in the analysis if they reported specifically on the item of interest; no assumptions were made if data were missing. For example, articles that did not report a complication rate were not assumed to have reported a zero rate; these articles were treated as if the data were missing and so were excluded from all morbidity analyses.

Results

Definition of fecal incontinence (FI)
FI is the loss of normal control of the bowels. This leads to stool leaking from the rectum (the last part of the large intestine) at unexpected times. Anal incontinence can be defined as the loss of anal sphincter control or the inability to defer the call to stool to a socially acceptable time and place, resulting in unwanted release of gas, liquid or solid stool. There are several definitions for anal incontinence, depending upon duration, type, and amount of leakage. Passive incontinence relates to leakage occurring without patient awareness, usually in association with internal sphincter dysfunction and reduced maximum resting anal pressure. Patients with urge incontinence are unable to defer defection until a socially acceptable time, which usually reflects both external sphincter dysfunction and reduced maximum voluntary contraction (12). However, we objectively define anal incontinence as any involuntary loss of sphincter control (14). An important factor in determining the prevalence of fecal incontinence is the definition of incontinence chosen (15).

Epidemiology of FI
Several reports on the epidemiology of FI gave different prevalence results. As shown in Table 3, of the population-based studies that have been reported, the prevalence rates vary from 0.5 to 50% (1, 16–20). Other authors report incidence rate that varies from 0.1 to 5% (16, 21, 22). Johansen and Lafferty demonstrated a prevalence rate of 13.7% among individuals seen by primary care physicians, highlighting the underestimated numbers of this “silent affliction” (23). In Swedish community, soiling of underclothes more than once a month occurred in 21% of men and 14.5% of women (24). FI has also been reported to affect 1% of persons >65 years of age in the United Kingdom (18). The prevalence of fecal incontinence in urogynecology clinic reaches 12% (25), which is greater than the 2% in a general population (1). The overall prevalence of FI in an Australian study was 15% and was more prevalent in men (29%) than women (11%) (15). In Japan, Nakanishi et al. (26) reported 8.7% in men and 6.6% in women 65 years and older. A global incontinence rate of 5% fits well with some published reports (26).

It is more common in women and in the elderly of both sexes (27, 28). Kerrigan noted that FI is eight times higher in women than in men (101). However, several authors reported that FI has been shown to be as prevalent in men (1, 14–18), but women are more willing to report this symptom than men (1).

Risk factors for FI
The odds of reporting fair or poor health (rather than good health) were significantly higher among people reporting FI (29). Potential risk factors include perianal injury, perianal surgery and fair/poor general health (29). Statistically significant risk factors with FI included female sex, age older than 65 years, physical limitations, and poor general health. Multi-