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CLINICAL PAPER

Identifying the needs of obese women with urinary incontinence attending a specialist continence physiotherapy service

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Abstract
The aim of this study was to identify the needs of obese women with urinary incontinence (UI) attending a specialist continence physiotherapy service (SCPS). A cross-sectional convenience sample from a SCPS in one Scottish National Health Service trust, the modified nominal group technique (MNGT) and inductive content analysis were used. Twenty-two obese women with UI who were attending or had attended the SCPS within the previous 6 months were recruited. Three themes emerged from the MNGT that were perceived to represent the most important needs of obese women with UI: communication, professional behaviour and service provision. Forty-eight per cent of the participants identified communication as their highest priority, then professional behaviour (27%) and service provision (25%). Urinary incontinence is embarrassing for many women, and the needs of obese women may differ from those of women who are not because of weight-related psychological anxieties and the risk of UI. Identifying the needs of obese women with UI may better inform the SCPS and provide appropriate services for them.

Keywords: modified nominal group technique, obesity, specialist continence physiotherapy service, urinary incontinence, women.

Introduction

Urinary incontinence (UI) is a major concern for women, and obesity a known risk factor for this condition (Richter *et al.* 2005; Hay-Smith *et al.* 2006; Hunskaar 2008). Obesity is defined as a body mass index (BMI) of more than 30 kg/m^2 (WHO 2009), and UI as the involuntary leakage of urine (Abrams *et al.* 2003). Obesity has been reported to affect approximately 24% of women in the UK (WHO 2009), and UI between 10% and 40% of this population (Hunskaar 2008). Obesity levels are predicted to rise by 50% by 2050 (WHO 2009). Sixty-seven per cent of obese women report UI (Richter *et al.* 2005) compared to 8.5% of similarly aged non-obese women (NCCWCH 2006). Proposed mechanisms for UI in obese women include raised intra-abdominal pressure caused by increased abdominal weight imposing chronic stretching on bladder nerves, leading to pelvic floor dysfunction (Han *et al.* 2005; Lambert *et al.* 2005). With predicted rising obesity levels and obese women being at risk of UI, both conditions will possibly become greater health problems in the future (Santaniello *et al.* 2007; Khong & Jackson 2008). The estimated annual costs of UI and obesity are reported to be approximately £2.3 million and £350 million, respectively (Turner *et al.* 2004; Allender & Rayner 2007).

Urinary incontinence is embarrassing for many individuals, but the needs of obese women may differ from those of women who are not because of weight-related psychological anxieties and an increased risk of UI (Han *et al.* 2005;

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NCCWCH 2006; Hunskaar 2008; Flodgren *et al.* 2010). Specialist continence physiotherapy is recommended as the first-line therapy for women with UI, and increased emphasis is being placed on including service users in service evaluations (NCCWCH 2006; DH 2007; Dumoulin & Hay-Smith 2010). Therefore, it is important for specialist continence physiotherapists to identify the needs of obese women in order to ensure that service provision satisfies the aspects of care that are important to them (SIGN 2004; Flodgren *et al.* 2010).

One effective way of collecting data identifying participants' needs is the nominal group technique (NGT) (Delbecq & Van de Ven 1971; Potter *et al.* 2003). This is a consensus method that employs a five-point scale prioritizing responses in answer to one question from between five and 10 participants per group. The responses are ranked in terms of relative importance: (1) least important; and (5) most important. The NGT stages are: introduction and explanation; silent generation of ideas; sharing ideas; group discussion; and voting and ranking (Delbecq & Van de Ven 1971). Participants rank responses that reach the level of consensus. A consensus level is defined as responses ranked between 1 and 5 by 50% or more of the members of the group (Enloe *et al.* 1996). The administration time for the NGT has been reported to be approximately 50 min (Delbecq & Van de Ven 1971). The technique has documented reliability and validity in healthcare research, with participant-related issues reaching high levels of consensus (Makundi *et al.* 2005; Williams *et al.* 2006). A limitation of NGT is that all participants are asked only one question. Therefore, there is reduced reliability if the question is inappropriately worded, interpreted differently or responses important to some participants are not ranked by other group members (Aspinal *et al.* 2006; Buckley *et al.* 2009).

The modified NGT (MNGT) is a further progression of the original technique (Williams *et al.* 2006). It was developed in order to provide a more discreet data collection method because participants were asked to report on delicate issues (Aspinal *et al.* 2006). Participants maintain anonymity by using written cards to record responses instead of verbal reports (Williams *et al.* 2006). Because of the time constraints of the present study, the MNGT was more appropriate to use than the Delphi technique or interviews, in which reaching conclusions can be time-consuming (Shaw *et al.* 2000; Williams *et al.* 2006). A previous study of nurse-led continence services used interviews to explore patients' needs (Shaw *et al.* 2000). However, because of a lack of demographic data, it was unclear whether the same needs could be transferred to obese women attending a specialist continence physiotherapy service (SCPS) (Shaw *et al.* 2000).

Studies have demonstrated that UI is linked to obesity and specialist continence physiotherapy (Han *et al.* 2005; Lambert *et al.* 2005; Richter *et al.* 2005; NCCWCH 2006; Hunskaar 2008; Dumoulin & Hay-Smith 2010). A search of literature published between 1996 and 2011 was undertaken in order to identify English-language studies. The search terms employed were: ''modified nominal group technique''; ''obesity''; ''specialist continence physiotherapy service''; ''urinary incontinence''; and ''women''. The Allied and Complementary Medicine Database (AMED), Cumulative Index to Nursing and Allied Health Literature (CINHAL), Medical Literature Analysis and Retrieval System Online (MEDLINE), and the Cochrane Library databases were searched. No publications were identified.

The aim of the present study was to identify the needs of obese women with UI attending a SCPS.

Participants and methods

Participants

All obese women attending a SCPS in one Scottish National Health Service (NHS) trust at either the time of the study, or during the 6 months prior to the commencement of the research, who met the inclusion criteria were approached and invited to participate in the survey. The inclusion criteria were: a diagnosis of UI confirmed by a urogynaecology consultant; between 16 and 65 years of age; English-speaking; able to follow simple instructions; and a BMI over 30 kg/m^2. The exclusion criteria were: severe cognitive problems, such as pre-existing dementia; and pregnancy. The West of Scotland and the University of Bradford research ethics committees approved this study.

Procedure

Prior to the main study, a pilot was conducted with eight non-obese physiotherapists. The pilot study aimed to test the MNGT procedure and identify problems that could be avoided in the main study.

The main study was carried out using the MNGT at three group meetings in January 2011 in two Scottish NHS trust clinics. Written informed consent was gained, and the participants attended one group meeting. The same investigator (T.C.) conducted all three groups. An independent facilitator (a musculoskeletal physiotherapist) was present at the meetings, acting as transcriber and ensuring the uniformity of the procedure.

Each meeting began with the participants being welcomed, and then the aim of the study, how results would be used and the MNGT procedure were explained. All participants were given 20 blank cards and a pen, and allowed 10 min to individually and silently generate a list of responses, writing one response per card, but not their name, in answer to the question, ''What are your needs from a specialist continence physiotherapy service?'' This question was decided on because it satisfied the aim of the study.

After 10 min, all completed cards were returned to the facilitator. The number of cards returned varied on how many participants there were in the group and the amount of responses that they generated. Responses were numbered and written verbatim on flip-chart sheets by the facilitator and attached to the wall for the participants to see. This took 20 min.

With all responses submitted, a 10-min open discussion allowed each group to clarify or combine overlapped/duplicated responses.

When the final list of responses reaching the level of consensus (as previously described) had been prepared, each participant was asked to use one card to write down anonymously the five that they considered most important. They were then asked to rank these from first to fifth, ascribing a score of between 1 and 5 to each of these responses, where five was most important and one least important. Scores were recorded next to the relevant response on the flip-chart sheets by the facilitator as the cards were returned. A total score was calculated for each response according to the ranking given by individual group members. Immediate results in response to the question were available to the group participants, and having reached a specific outcome, the meeting concluded. This stage took 10 min.

Analysis

The MNGT produced ranked responses and scores from the three groups. Data reaching a consensus level of 50% or more members of the group received a rank and score. Results were calculated from each group, and then combined to show an overall result. Total rank scores from each group were calculated by adding together individual rank scores. Data receiving a rank and score were thematically grouped by the investigator (T.C.). Inductive content analysis was employed to identify themes from the three groups and combine responses, including overlapping and duplicated ones (Elo & Kyngäs 2008). Theme grouping and naming were checked for content validity by an external physiotherapist. Total group rank scores were converted into percentages in order to make comparisons between themes and identify a prioritized theme.

Table 1. Demographic and clinical data for the participants: (SD) standard deviation

Variable	Range	Mean ± SD
Age (years)	28–65	50 ± 10
Body mass index (kg/m^2)	30–52	36 ± 6
Length of time with urinary incontinence (years)	1–43	13 ± 13

Results

Fifty-one obese women (12 currently attending, 39 discharged) from the SCPS were identified as eligible and invited to participate in the study. Although 29 did not respond, 22 (eight currently attending, 14 discharged) provided informed consent and agreed to take part. The participants' demographic and clinical data are presented in Table 1.

Inductive content analysis of ranked and scored items

Table 2 shows a summary of the group responses.

Thirty-eight responses were ranked and scored for the three groups. After combining overlapping and duplicated responses ($n=9$), 29 remained. Of these 29 responses, 13 reached consensus level. Inductive content analysis of the 13 responses resulted in the generation of three themes, which are outlined and described in Table 3.

Figure 1 is a flow diagram of the application of inductive content analysis. It shows data generated reaching consensus and being combined into three themes: communication, professional behaviour and service provision.

Table 2. Summary of group responses: (SD) standard deviation

Group	Participants (*n*)	Total responses generated (*n*)	Responses overlapped or duplicated (*n*)	Total responses ranked and scored by at least one person (*n*)	Responses reaching consensus (*n*)*
1	10	14	2	12	5
2	5	8	1	7	4
3	7	16	6	10	4
Total	22	38	9	29	13
Mean ± SD	7 ± 2	13 ± 3	3 ± 2	10 ± 1	4 ± 0.5

*Ranked by at least 50% of the group's members.

Five responses were combined into the communication theme, four into professional behaviour and four into service provision.

Rankings

Participants from all three groups ranked and scored each response. The combined total group rank score for all three groups was 242 (Table 4).

Figure 2 shows the three themes as percentages. Communication was ranked as the highest priority (48%), followed by professional behaviour (27%) and then service provision (25%).

Table 4 summarizes the ranked and scored responses, and compares these with the numbers of participants, their groups and illustrative quotations. It shows that communication was ranked as the highest priority with 115 points. Eighteen participants from all three groups prioritized that the physiotherapist should be friendly and approachable, and make them feel at ease. Eighteen participants from all three groups ranked understanding as important. The second priority was professional behaviour with 66 points. Sixteen participants from groups 1 and 2 prioritized explanations regarding their condition and how to deal with it as important. Five participants from group 2 prioritized not being made to feel different with regard to their condition. The total group rank score was 11. The third prioritized theme was service provision with 61 points. Ease of referral, privacy and methods to improve quality of life were each ranked by five participants from groups 1 and 3. The total group rank score was 49, but four participants from group 2 ranked treatment without medication as their priority. The total group rank score was 12.

Discussion

The aim of the present study was to identify the needs of obese women with UI attending a SCPS using the MNGT. It successfully provided a structured format and was time-effective (Williams *et al.* 2006). Participants reported that the data collection was easier and less embarrassing than anticipated. They had thought that verbal interaction regarding their condition and weight would be involved. The findings identified three themes: communication, professional

Table 3. Theme descriptions (adapted from Potter *et al.* 2003)

Theme	Description
Communication	Physiotherapist's manner – caring, friendly, understanding; inspires confidence, listens, is aware of body language, builds trust and demonstrates empathy; has the ability to put the patient at ease during examination and treatment
Professional behaviour	Physiotherapist's appropriate skills and knowledge – knows limitations, seeks further knowledge as required, keeps up to date with current and past patient history, reliable Teaching/education – physiotherapist's role in providing information, including clear explanations of the problem; process of treatment at an appropriate level; explanation of what therapist is doing and why during assessment and treatment; prognosis Organizational ability – punctual
Service provision	Diagnostic and treatment expertise – provides self-help strategies (e.g. home exercise programme and/or what patients can do for themselves); actively involves the patient, provides an appropriate treatment plan to address the patient's problem (e.g. improve pelvic floor muscle function) Environment – a pleasant, welcoming and private setting within the clinic Convenience and accessibility – service accessibility, caters to individual needs, flexible reappointment time allocation, referral pathway

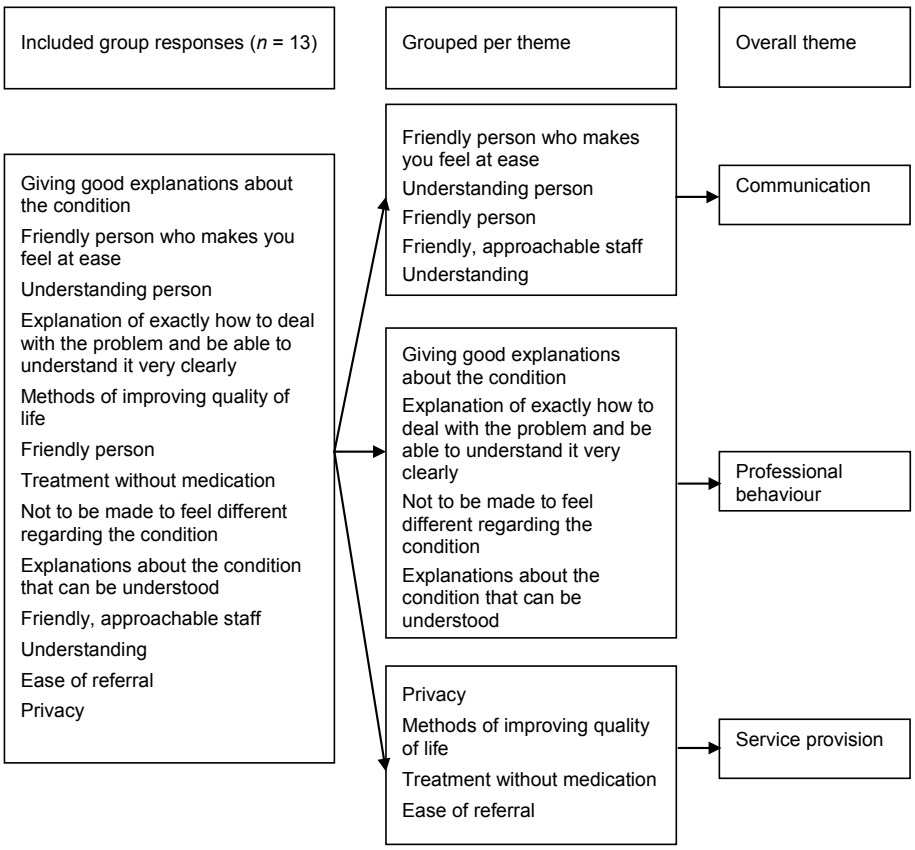

Figure 1. Flow diagram showing the application of inductive content analysis (adapted from Williams *et al.* 2006).

behaviour and service provision. Communication was given the highest priority.

A lack of research exists that identifies the needs of obese women with UI because studies have been biased towards non-obese women and treatment intervention (Hay-Smith *et al.* 2006; Dumoulin & Hay-Smith 2010). As a result of a paucity of applicable research, it is possible that the present work is the first study designed to investigate UI in this population. Therefore, the results were extrapolated and compared to similar findings from other disciplines, such as specialist continence nursing, musculoskeletal physiotherapy, occupational therapy, multidisci-

Table 4. Summary of ranked and scored responses

Theme	Group(s)	Participants (*n*)	Responses reaching consensus (*n* = 13)	Total group rank scores (total = 242)
Communication	1	7	"Friendly person who makes you feel at ease"	23
	1, 2	1, 5	"Friendly person"	21
	3	5	"Friendly, approachable staff"	18
	1, 2	7, 5	"Understanding person"	37
	3	6	"Understanding"	16
Professional behaviour	1	7	"Giving good explanations about the condition"	26
	1	6	"Explanation of exactly how to deal with the problem and be able to understand it very clearly"	18
	2	3	"Explanations about the condition that can be understood"	11
	2	5	"Not to be made to feel different regarding the condition"	11
Service provision	3	5	"Ease of referral"	15
	3	5	"Privacy"	18
	1	5	"Methods of improving quality of life"	16
	2	4	"Treatment without medication"	12

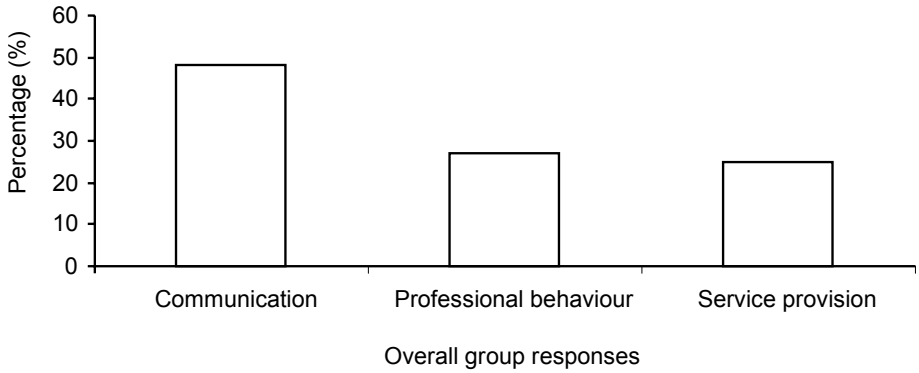

Figure 2. Prioritized needs of obese women with urinary incontinence attending a specialist continence physiotherapy service.

plinary rehabilitation and weight management (Shaw *et al.* 2000; Kealey & McIntyre 2005; McCarthy *et al.* 2005; Martin *et al.* 2006; Hills & Kitchen 2007; Cooper *et al.* 2008; Reeve & May 2009).

Communication

The present results confirm that, from the participants' perspective, communication elements, such as friendliness and understanding, were important, which confirms the findings of specialist continence nursing and musculoskeletal physiotherapy studies (Shaw *et al.* 2000; Hills & Kitchen 2007; Cooper *et al.* 2008). Forty-eight per cent of the participants in the present study ranked communication as their highest priority. In contrast, Hills & Kitchen (2007) used questionnaires examining satisfaction levels in 420 musculoskeletal physiotherapy patients, and found that treatment outcomes were the highest priority (19%), while communication was ranked by 14%. While methodological variations could possibly explain the percentage differences between the studies, these patients may have only required treatment and pain relief for their condition. Similar methodologies would allow for outcome comparison.

The participants in the present study not only wanted specialist continence physiotherapists to be friendly and understanding, but also able to put them at ease. Shaw *et al.*'s (2000) findings support this. They interviewed 16 patients in specialist continence nursing, and found that a friendly and understanding approach created an atmosphere of trust in which anxiety and embarrassment were relieved. The importance of communication was also highlighted by Cooper *et al.* (2008), who interviewed 25 patients with chronic low back pain about patient-centredness. Interviews carried out by a physiotherapist might have limited findings, introducing bias where patient compliance increased as a result of a Hawthorne effect causing behaviour to change (Polgar & Thomas 2008).

Professional behaviour

The importance of professional behaviour was identified in the present study, and this finding is consistent with those identified in musculoskeletal physiotherapy and weight management studies (Martin *et al.* 2006; Reeve & May 2009). The present participants wanted clear explanations of their condition, and thought that therapists must have appropriate knowledge and skills. They wanted individual teaching because they had difficulty using some equipment as a result of their physical size.

This agreed with the findings of Martin *et al.* (2006), who conducted a randomized controlled trial to ascertain 106 patients' needs in a weight management programme. Forty-five per cent of their participants reported that professional behaviour was important. Martin *et al.* (2006) provided patient intervention, but beneficial intervention effects may have been biased as a result of poor methodological quality and a lack of personalized intervention instruction (Flodgren *et al.* 2010). Intervention regulation might have validated differences between patients (Potter *et al.* 2003).

Similar to Martin *et al.*'s (2006) findings, Reeve & May (2009) identified quality dimensions in 12 musculoskeletal physiotherapy patients. Fifty per cent named professional behavioural skills as important.

The percentages reported by both Martin *et al.* (2006) and Reeve & May (2009) are higher than that found in the present study, which was 27%. These variations might be explained by the different needs of the patients, such as increased intervention teaching. No conclusions about

interventions and obese women with UI can be drawn (Flodgren *et al.* 2010).

Service provision

The present study found that service provision was important, and this result is supported by occupational therapy and multidisciplinary rehabilitation studies with commonalities including treatment strategies and service access (Kealey & McIntyre 2005; McCarthy *et al.* 2005).

Kealey & McIntyre (2005) interviewed 30 occupational therapy patients in order to evaluate palliative care service provision. Fifty-three per cent of these participants reported that prompt access and service availability were essential, in contrast to 25% in the present study. Different methodologies and very different study populations may explain the percentage variations between the two studies. However, as with the present work, a known interviewer was involved in Kealey & McIntyre's (2005) study, which may suggest bias. Patients might have felt pressurized to provide desirable answers (Polgar & Thomas 2008). An independent interviewer might have reduced bias.

McCarthy *et al.* (2005) evaluated a multidisciplinary rehabilitation service using focus groups and questionnaires with 105 patients. Strong correlations between patients prioritizing easy access to services, and treatment strategies and service provision were found ($P<0.001$). Neither Kealey & McIntyre (2005) nor McCarthy *et al.* (2005) provided details of their participants' BMIs. The inclusion of obese patients might have affected outcomes because of anxiety-related distress (Hunskaar 2008). The participants in the present study prioritized similar factors to McCarthy *et al.* (2005), such as easy service referral, privacy and involvement in treatment strategies. Easy service referral was highlighted by research reporting successful self-referral into SCPSs (CSP 2010). This may be more appropriate for obese women with UI since embarrassment caused by weight-related psychological anxieties might create service access barriers (Hunskaar 2008).

Although similarities were present across different healthcare settings and professions, some thematic details in the present study related specifically to obese women with UI and the SCPS. It is possible that good communication skills were highly prioritized because of sensitivity about UI and obesity-related psychological anxieties. Treatment processes needed to be clearly explained by therapists who had appropriate knowledge and skills, especially regarding intimate examinations and the potential difficulty with some treatment interventions as a result of physical size. For women to avoid embarrassment about their condition and negative attitudes towards them from other therapists because of their weight, treatment should be easily accessible and delivered in a location with private facilities.

Limitations

The investigator in the present study (T.C.) had treated 15 of the participants. This might have introduced bias because the participants may have felt obliged to attend meetings in order to satisfy the investigator and been disinclined to generate negative responses. Using participants untreated by the investigator was not possible because of the small number of obese women on the specialist continence physiotherapy database. An independent investigator might have been more suitable and may have put the patients more at ease, but the time constraints of colleagues prevented this.

Another study limitation was the small convenience sample of 22 self-selected participants. The results may not be representative of the population from which they are drawn or transferable to the whole population of obese women with UI. It remains unknown if self-selection introduced sample bias into the present study. Random selection was not possible because of the time constraints of the study. Data were collected from a single SCPS in one geographical area. The results only reflect the needs of these participants, which might bring into question the transferability of the findings to other SCPSs.

Only the needs of obese women were investigated, and therefore, caution should be exercised when considering the results as these are not transferable to non-obese women with UI. Further investigation comparing needs of obese and non-obese women with UI is required.

Conclusions

The present study identified that communication was ranked the highest priority of obese women with UI attending a SCPS, followed by professional behaviour and then service provision. Urinary incontinence is embarrassing for women, and the needs of obese women may differ from those who are not obese because of weight-related psychological issues and the risk of UI. Identifying the needs of obese women

with UI may better inform the SCPS and allow the service to provide appropriate services for these individuals. Further investigation is required to determine the relevance of these findings to the wider population of obese women with UI attending a SCPS.

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Dr Louise Johnson has been a lecturer at the University of Bradford since 2000. She previously practiced as a physiotherapist for Airedale NHS Foundation Trust in Keighley, West Yorkshire. Louise has ongoing research interests regarding the contribution of vision and somatosensory information to mobility and falls in the elderly, and in the sensorimotor control of gait. Her doctoral research focused on the effects of common forms of visual impairment upon postural stability, the risk of falling and gait biomechanics in the elderly.

