

✱ CLINICAL REPORT ✱

'The day of the soft towel?': Comparison of the current bed-bathing method with the Soft Towel bed-bathing method

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Accepted for publication December 1998

Hancock I, Bowman A, Prater D. *International Journal of Nursing Practice* 2000; 6: 207-213

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The impressions of 200 patients (both medical and surgical) and 200 nursing staff (registered, enrolled and trainee enrolled nurses) in relation to two bed-bathing methods were compared by means of questionnaires and semi-structured interviews. Data regarding costs were obtained from appropriate cost centre managers. The results of the study found the soft towel bed-bathing method to be more cost effective and provide more patient and nurse satisfaction than the current bed-bathing method.

Key words: bed-bathing methods, soft towel.

Much as I disliked the sponging process, and useless as it had been to suggest that the help of a guiding hand as far as the bathroom could eliminate it, its failure to occur was highly disconcerting.^{1,2}

INTRODUCTION

The soft towel bed bath is the method of choice at several hospitals throughout Australia, including the Sydney Adventist Hospital (Sydney, NSW, Australia) and the Burnside Hospital (Adelaide, SA, Australia). The method utilises Dermalux Soft Towel Lotion (Whiteley Industries,

Sydney, NSW, Australia), which is a mild, natural oil-based lotion developed and manufactured in Australia. This lotion is thought to cleanse and refresh the skin while maintaining skin condition without dryness or irritation. Both the principal investigators of the present study experienced the Soft Towel bed bath during recent periods of hospitalisation and considered that the method provided greater patient comfort and wellbeing.

The present study was undertaken at the Royal North Shore Hospital, Northern Sydney Area Health Service, over a 6-month period. The Dermalux solution was supplied by Whiteley Industries at no cost, as were the solution dispensers, videos, wall charts and letter of liability.

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Aim

The aim of the study was to compare the Soft Towel bed-bathing method with the current bed-bathing method, focusing on: (i) patient satisfaction; (ii) nursing staff satisfaction/acceptance; and (iii) costs: labour/materials.

Definitions

Soft Towel bed bath

The Soft Towel bed bath requires 2 L hot water and 30 mL Dermalux Soft Towel Lotion. These are poured over three rolled towels and two disposable washers (for the face and genital areas) inside a plastic bag. The solution is kneaded through the towels and the towels are then placed over the patient: one for the torso and one for the legs (either top to bottom or in a T-formation). The remaining towel is used for the back.

Initially, the patient is offered one of the disposable washers to cleanse their face. The body is cleansed by massaging with the solution-impregnated towels. The second washer is offered to the patient for cleansing the genital area. The patient is then rolled on their side and their back is cleansed by massaging with the remaining towel, finishing at the anal area.

Due to the temperature of the towels, when they are removed from the patient's skin no drying is required.

Current bed bath

The current bed bath has been the traditional bathing method in hospitals and care centres since the time of Florence Nightingale. This method utilises a basin of approximately 3 L water; bar soap (generally provided by the patient); one to two washers and two towels.

Hypotheses

The principal investigators formulated three null hypotheses, the validity of which would be tested during the study. They were:

1. That there will be no difference between the impressions of patients receiving either method.
2. That there will be no difference between the impressions of nursing staff administering either method.
3. That there will be no cost difference between the two methods.

Previous studies

The Soft Towel bed-bathing method, or Toffman method (A Gibbons, unpubl. data, 1987), was developed in the United States in the 1970s and has since been tested for

patient and nursing staff satisfaction in several American and British clinical environments. The most relevant studies have been those of Barsevick and Llewellyn,³ Wright⁴ and Carruth *et al.*⁵ Barsevick and Llewellyn, using a sample of 105 patients, found that the Soft Towel bed-bathing method saved time and energy for nursing staff and had therapeutic effects for patients. Wright assessed the Soft Towel bed-bathing method in relation to a small group of patients and found that both patients and nurses enjoyed the bath. The study of Carruth *et al.* indicated that time and cost savings could be achieved by using a bathing technique similar to the Soft Towel bed-bathing method.

The Soft Towel bed-bathing method has been used for several years at the Sydney Adventist Hospital (SAN) as well as at Burnside Hospital in Adelaide. A 1987 study by Gibbons (A Gibbons, unpubl. data, 1987) at the SAN in cooperation with Whitely Industries, concluded that, using a clinical nursing practice assessment matrix, the Soft Towel bed-bathing method was worthy of consideration as a clinical procedure '... on the basis of psychological, sociological and economical perspectives.' However, Gibbons did warn that further trialling of the new method would be required, noting that: '... traditionally accepted procedures have had years of trialling and perfecting.'

Two smaller studies have been undertaken in public hospitals in NSW: first, by O'Mara (J O'Mara, unpubl. obs., 1990) at Liverpool Hospital; and second, by Scott (S Scott, unpubl. obs., 1993) at Ryde Hospital. Both studies found that patients and nursing staff enjoyed the method and recommended that it be implemented on the wards. However, due to the small size of these studies, the current larger study has been undertaken in order to assess the practicality of introducing the Soft Towel bed-bathing method into public hospitals in the Northern Sydney Area Health Service.

METHODS

Research participants

Two hundred patients were interviewed, with the sample being split in half to obtain equal numbers for each bed-bathing method. Patients were recruited from both surgical and medical wards (including orthopaedics, cardiology, cardiothoracic surgery and coronary care), were of either sex and needed to be over the age of 18 years. All patients requiring a bed bath received the method being used at the time as designated by the project. However, only patients who were physically and mentally capable were chosen to be interviewed. At all times, inter-

viewing was conducted at the discretion of the nursing staff on the wards.

In addition, 200 nursing staff were recruited, with the sample including registered nurses, enrolled nurses and trainee enrolled nurses. It should be noted that while the patient and nursing staff interviews were performed on the same wards, nursing staff responses were not matched with the responses of the particular patients they had bathed.

Data collection instruments

A patient questionnaire designed by the principal investigators, contained seven questions relating to patient comfort, privacy, cleanliness, skin condition and warmth.

Nursing staff were given similar questionnaires that they completed themselves. The eight questions related to learning and performing the method, the time taken to complete the method, patient feedback and cleanliness and skin condition.

Comments made by both patients and nursing staff form the basis of the qualitative analysis.

Details of costings were obtained by verbal discussion with relevant personnel within Royal North Shore Hospital and the Northern Sydney Area Health Service.

Data collection procedure

The research assistant visited the participating wards each day and, after consultation with nursing staff, interviewed suitable patients who had undergone the designated bed-bathing method that morning. The research assistant used the questionnaire as part of a semi-structured interview.

Information relating to patients, such as their names or their conditions, was not collected; however, bed numbers and dates were recorded on the questionnaires themselves in order to avoid duplication. Before being bathed, patients received a handout outlining the aims of the study. Patient consent was a mixture of verbal and implied.

Nursing staff on the wards involved in the study received inservice education on the Soft Towel bed-bathing method before commencing the study. Originally, the nurses' questionnaires were to be completed while the patient interview was taking place. However, due to the demands on nursing staff time, it was found that distributing questionnaires at morning tea time was a far more effective way of gathering information. Again, personal information was not solicited.

The study was performed in two stages, each of 3-months duration. The wards were split into two groups,

with one group administering the current bed-bathing method and the other using the Soft Towel bed-bathing method. At the halfway point, the two groups changed over to avoid outcome bias in the results.

Data analysis

Quantitative analysis was conducted using the Chi-squared test for independence. This test was regarded as most suitable because it gauges the extent to which differences between sets of scores are due to chance or, more pertinently, the extent to which one can say with confidence that these differences are statistically significant. The results of this analysis have been summarised below. Note that some grouping of scores was required in order to avoid zero values in expected frequencies.

RESULTS AND DISCUSSION

Quantitative data

Patient responses

Table 1 is a summary of the patient questionnaire responses with respect to the Soft Towel bed bath in comparison with the current bed bath method. The fact that there was no difference in patients' perceptions of privacy is an interesting result, because it suggests that patients are not as concerned about privacy as nursing staff think they are. The study performed by Webster *et al.*⁶ on patients' and nurses' attitudes towards bed bathing came to a similar conclusion, although it must be noted that they were concerned only with the current bed-bathing method.

On the criteria of warmth, skin cleanliness and skin dryness, we can say with some degree of confidence that there was slight variation between the two sets of scores. However, these variations were not statistically significant ($P > 0.05$). Again, this is interesting because previous studies have found that the Soft Towel bed bath is more effective at maintaining patient warmth and cleanliness.^{1-4,6}

On the criteria of skin softness, comfort and relaxation, we can say with confidence that variations between the two sets of data are due to differences in patients' attitudes rather than chance ($P < 0.05$ in each case). With regard to skin softness, the test indicates that the differences between the two data sets are even more statistically significant, because the Chi score far exceeds the required value for significance.

Table 1 Question responses by patients using a scale of 1–5, where 1 represents a response of 'agree' and 5 represents a response of 'disagree'

Question	Patient response score					χ^2	d.f.	P
	1	2	3	4	5			
1. Privacy	91 (91)	6 (6)	2 (2)	1 (0)	0 (1)	—	—	—
2. Warmth	84 (69)	10 (19)	4 (6)	1 (3)	1 (4)	7.68	4	0.25
3. Skin cleanliness	73 (61)	17 (20)	9 (15)	0 (3)	0 (1)	4.36	2	0.25
4. Skin dryness	7 (6)	1 (5)	11 (12)	3 (6)	71 (68)	3.78	4	0.5
5. Skin softness	36 (6)	18 (7)	25 (34)	0 (3)	9 (40)	49.87	3	0.001
6. Comfort	84 (67)	10 (13)	2 (8)	3 (2)	0 (11)	12.14	3	0.01
7. Relaxing	83 (59)	10 (23)	2 (12)	1 (2)	2 (5)	17.88	4	0.05

Data show the patient response scores for the Soft Towel bed bath method with the responses for the current bed-bathing method given in parentheses.

d.f., degrees of freedom.

Therefore, based on quantitative analysis alone, we can partly reject our first hypothesis, that is, that there will be no difference between patients' attitudes to the bed-bathing method they have received. With regard to skin softness, we can say with confidence that the Soft Towel bed bath had a more beneficial effect for patients, while with regard to comfort and relaxation the Soft Towel bed bath can also be said to be more enjoyable and therapeutic. However, on the remaining criteria, we cannot say with confidence that there is any difference between the two methods.

Nursing staff responses

Table 2 is a summary of the nursing staff questionnaire responses with respect to the Soft Towel bed bath in comparison with the current bed bath method. In relation to nursing staff responses, significance was achieved for each criterion, that is, we can say with a high degree of certainty that differences between the scores were not merely coincidental. While only patient satisfaction was being tested through the patient questionnaire, both nursing staff satisfaction and acceptance were being tested in the nursing staff questionnaire. The fact that nursing staff on all wards were enthusiastic about the positive effects of the Soft Towel bed bath is significant in itself.

In addition, the average time taken to administer each bed bath was included in the nursing staff questionnaire. The results show that, on average, the Soft Towel bed bath

took 10 mins to complete, while the current bed bath took approximately 16 min.

Therefore, based on quantitative analysis alone, we can confidently reject our second null hypothesis, namely that there would be no difference between the impressions of nursing staff administering either method. For all criteria, nursing staff rated the Soft Towel bed bath as being the preferred bed-bathing method.

Costings

Table 3 is a summary of the costings in respect to the Soft Towel bed bath in comparison with the current bed bath method. This analysis was based on a ward where minimums of five bed baths per day are performed. In reality, some wards (such as orthopaedics) perform far more than five bed baths per day, while other wards (such as a six-bed coronary care ward) will perform far fewer bed baths.

In terms of heating costs etc., electricity is regarded by hospital cost centres as a nil cost, because the boilers are constantly running, meaning that it costs nothing (effectively) to heat water on the wards. Figures for labour are based on the average of the wages of third year registered nurses, second year enrolled nurses and trainee enrolled nurses, as well as the time taken to perform the bed-bathing method.

The establishment cost for the Soft Towel bed-bathing method is \$AU34.13 per set of equipment, which includes

Table 2 Question responses by nursing staff using a scale of 1–5, where 1 represents a response of 'agree' and 5 represents a response of 'disagree'

Question	Patient response score					χ^2	d.f.	P
	1	2	3	4	5			
1. Learning	90 (58)	8 (28)	1 (12)	1 (1)	0 (1)	27.65	3	0.001
2. Performing	84 (31)	9 (32)	5 (21)	1 (13)	1 (3)	58.44	4	0.001
4. Patient contact	53 (32)	31 (30)	5 (22)	7 (13)	2 (2)	17.71	4	0.005
5. Patient feedback	67 (19)	22 (35)	7 (27)	1 (12)	0 (6)	56.73	3	0.001
6. Cleanliness	53 (24)	37 (36)	6 (29)	4 (10)	0 (1)	29.3	3	0.001
7. Dry hands	24 (49)	13 (19)	14 (14)	17 (9)	25 (8)	20.56	4	0.001
8. Soft hands	45 (4)	25 (5)	15 (17)	6 (29)	2 (44)	101.1	4	0.001

Data show nursing staff response scores for the Soft Towel bed bath method with the responses for the current bed-bathing method given in parentheses.

d.f., degrees of freedom.

Table 3 Comparison of costings for the Soft Towel bed-bathing method and the current bed-bathing method.

	Cost (\$AU)	
	Soft Towel	Current method
Solution/soap	0.17	Nil
Water	0.14	0.42
Electricity	Nil	Nil
Laundry	0.51	0.34
Waste	N/A	N/A
Labour	2.02	3.03
Total per bath	2.84	3.79
Five baths per day	14.20	18.95
Total per year	5183.00	6916.75

Information was collected from relevant personnel within the Royal North Shore Hospital and the Northern Sydney Area Health Service.

N/A, not available.

a 30.5 cm red spirit thermometer, one 3 L plastic jug and a bundle of 50 polythene bags (600 × 280 mm; thickness, 50 µm).

Final analysis revealed that the Soft Towel bed bath has the potential for substantial cost savings, in the region of

25% per year. This is in line with the figures quoted by the American study of Carruth *et al.*⁵

Because Royal North Shore Hospital has not finalised its waste recycling programme, the cost of disposal of solution containers is currently unavailable.

Therefore, we can reject our third null hypothesis, namely that there will be no difference between the costs associated with the two bed-bathing methods.

Qualitative analysis

Patient comments

Overall impressions An analysis of key words patients used to describe their overall impressions of the bed-bathing method they received reveals that patients receiving the Soft Towel bed bath most commonly used the words 'good', 'felt better', 'refreshing' and 'relaxing'. Patients receiving the current bed bath used 'good', 'refreshing' or 'all right' most often. Patient enthusiasm for the Soft Towel bed bath was far more unreserved and enthusiastic, while current bed bath patients frequently qualified their enthusiasm or were not enthusiastic at all.

Privacy Privacy was not considered to be an issue by the vast majority of patients. The most common reaction when asked about privacy was that the nursing staff had done as much as possible to maintain patient privacy, but that one could not expect total privacy in a hospital anyway. Most patients had also been in hospital before and

so knew what to expect. Thus, it was impossible to measure whether the Soft Towel bed bath is any different from the current bed bath in terms of its ability to maintain patient privacy. The fact that quantitatively there was no difference between the two sets of scores suggests that the two methods maintain privacy equally well.

Warmth When asked about warmth, patients undergoing the Soft Towel bed bath usually commented that they did feel warm or that they only felt cold when the towel was taken off. Patients receiving the current bed bath who commented on warmth were more likely to say that they felt cold, although two patients commented on the cooling nature of a current bed bath.

Comfort Soft Towel bed bath patients were more likely to comment that they felt comfortable than current bed bath patients. The Soft Towel bed bath was seen as good for bed-bound, elderly and postoperative patients alike. The current bed bath comfort level, when commented on, was seen as low, being an awkward procedure that could, on occasion, accentuate patient pain.

Cleanliness Of the few comments made in relation to cleanliness, both methods evoked positive comments.

Dryness of skin There were mixed comments with regard to the dryness of skin of the patients who received the Soft Towel bed bath. Some patients noticed that their skin was softer afterwards; others did not feel adequately dry. In comparison, patients who received the current bed bath did not make any comments about the condition of their skin.

Nursing care Most patients receiving the Soft Towel bed bath commented positively on the standard of nursing care they received while being bathed. Several even stated that they thought it was an easier or more straightforward method for the nurses to perform, while one patient said it seemed like '... a lot for the nurse to do.' In comparison, patients receiving the current bed bath had quite different concerns. These were very much to do with nursing staff doing what they had to do (and what they had always done) in giving the current bed bath. Patients stated that the nurses had done a 'good job' or were 'efficient' or 'professional' (in one case 'rough and abrupt!') rather than focusing on, for example, greater tactile patient contact. Two patients emphasised the need for a total procedure

for self-sufficiency, which indicates that many patients prefer to wash themselves, but that when bedbound will submit to a bed bath if they have to. Patients were able to identify the differences between the two methods of nursing care.

Further comments The following comments are of interest only as the study did not include the comparison of bed bathing and showering.

Soft Towel bed bath patients, while not having been told about the other method being used, consistently stated that it was better than having a shower. However, several patients did say that they would not want to have one all the time. In contrast, current bed bath patients overwhelmingly described the bed bath as 'not as good as a shower.' Because showering was not featured in the study, these unsolicited patient comments have raised an interesting issue for further study.

Nursing staff comments

Performing the method Nurses found the Soft Towel bed bath easier to perform than the current bed bath, indicating that it decreased the amount of mess made, was more pleasant for both patients and nurses and had a soothing and relaxing effect. The current bed bath, in comparison, was more likely to be seen as less cleansing and more stressful for patients.

Nursing staff indicated that, with the Soft Towel bed bath being a new method, they were often unsure with regard to the correct amount of water required. There were also concerns about the use of extra towels and the need for softer and more absorbent towels. Users of the current bed bath, by comparison, had problems with water getting cold, arranging to have patients lifted and protecting the privacy of patients. This last point is interesting when seen in the light of patient attitudes to privacy and the fact that nursing staff were more likely to state that the Soft Towel bed bath was better for patient privacy.

Learning the method The Soft Towel bed bath was seen as easy to learn or easy to pick up by observing other nurses performing the bed bath. Nurses who used the current bed bath had little to say about learning it, which is not surprising given the fact that it is a familiar procedure for nurses.

Patient comfort Nursing staff opinions as to patient comfort differed markedly under the two methods.

Almost every nurse who commented on patient comfort with the Soft Towel bed bath said that the patient enjoyed the experience, while no nurses who performed the current bed bath made any comment on whether the patient liked it or not. In terms of keeping patients warm, the Soft Towel bed bath was seen to achieve this, while the current bed bath was far more likely to make patients feel cold. Patient warmth was the major issue for nursing staff with respect to patient comfort. The Soft Towel bed bath preserved patient modesty and was seen as a good opportunity to communicate with patients, while the nurses administering the current bed bath received little or no patient feedback while being bathed and were more likely to state that the method left patients cold and exposed.

Hand condition While there were no specific comments made by nurses, quantitative data on this criteria suggest that the nursing staff found the Soft Towel bed bath to have a softening effects on their hands.

Time factors Most nursing staff found the Soft Towel bed bath to be very quick and time saving and even quicker than the current bed bath. By comparison, the current bed bath was more likely to be seen as time consuming, with only one respondent saying it was quick. This is supported by data collected from the questionnaire responses relating to the average time taken using each method.

Patient cleanliness Nurses who used the current bed bath were less likely to comment on patient cleanliness. However, overall attitudes to the procedure, such as in relation to its 'messiness', may indicate that patient cleanliness is not automatically satisfied under this method. Nurses using the Soft Towel bed bath also noted circumstances when this method was less effective, such as when bathing incontinent patients. While this is an issue for closer examination, the point should be made here that either method is ineffective in such circumstances, thus requiring a specific procedure for achieving patient cleanliness. Therefore, this issue should not affect any comparison of the two methods.

Further comments Further to this qualitative analysis, which seems to suggest a general acceptance of the bene-

fits of the Soft Towel bed bath as opposed to the current bed bath, the research team observed, throughout the project, a steady increase in nursing staff enthusiasm for the project. Given that the resistance to change is often high among nursing staff, it was both surprising and heartening to see nursing staff embrace the new method and express a desire to continue to use it on completion of the study.

Conclusions

In conclusion, the present study found the Soft Towel bed-bathing method to be the preferred method of meeting the hygiene needs of patients restricted to bed. The level of acceptance from nursing staff in relation to the Soft Towel method was very high and there was found to be a significant cost saving, approximately 25%, when using the Soft Towel bed-bath method.

ACKNOWLEDGEMENTS

The authors thank the NSW Health Department, Post Enrolment Initiative funding programme, the Royal North Shore Hospital Nursing Unit Managers (Fiona Carmichael, Mary Carrol, Sue Gibbs, Rosemary Hanssen, Gill Harrington, Natalie Hollis, Mandy Kerr, Cathy Kneeshaw, Belinda McCall, Carolyn Morgan, Lynn O'Neill, Nuala Walsh, Robbie Ward), Clinical Nursing Consultants (Maria Taylor (Neuroscience), Gillian Pollinger (Orthopaedics) and the nursing staff (wards: 6B, 6J, 8C, 8D, 9A, 9B, 9D, 10B, 11A, 11B, 11D, 12A), Whiteley Industries Pty Ltd (Greg Whiteley, Declan Lenahan, Roz Cheung, Vincent Lam, Cathie Russell) and Judith Donohue (University of Technology, Sydney).

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