

Investigation of Evaluation Methods of Bed-Bath Technics in Nursing Freshmen Education

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Abstract: The purpose of this study is to reveal each item's effect one another, and get a policy of the way of evaluations on educations in the future through the item analysis of bed-bath technics evaluation on the lecture of technics of bed-bath and clothing. We found that 1) *Grooming*, scored the highest in the mean value, showed a significant positive correlation between *confirmation of the act, description and consent, secure the work area, how to use towels, favorite wipe pressure, communication*. It suggested that the motivation and attitude that prepare *grooming* is involved in *technics*. 2) *Favorite wipe pressure*, scored low in the mean value, showed a significant positive correlation between *how to wipe eyes*. Moreover the item of *how to wipe eye* showed a significant positive correlation between *confirmation of the act, description and consent, environmental adjustment*. Therefore, to get technics of clear description and agreement is not only important itself. It also leads technical provision which students desire. We must teach students these technics in various technical exercises.

Key words: bed-bath, nursing education, wipe pressure

1. Introduction

Enhancement of nursing education promoted as a policy in 1992 of the government of Japan, *Act on Assurance of Work Forces of Nurses and Other Medical Experts*. Its basic policy was that “As a socially demand, universities must bring up high quality nurses with specialized knowledge, technics, rich humanity, and precise assessment of nursing that can fully correspond to the sophistication and specialization due to the recent progress and development of medicine and medical care” (Toshiko Ibe, Mutsuko Nakanishi, 2004). Nursing higher education requires the enhancement of technical education, thus Study Group on Improvement of Basic Nursing Education (2007) suggested “technics items of nursing education and attainment level at the time of graduation” (The Ministry of Health, Labour and Welfare, 2007) as a reference. *Life technics of bed-bath and clothing* is in Level1 *can carry out by him/herself* or Leve 2 *can carry out under the guidance*.

However, due to the nuclear family, declining birthrate, dietary changes, modern youths have poor opportunities and experience to obtain daily life technics such as cleaning and bed-bath self-care by using rags or towels, cleaning up their clothes with washing machine, drying, organizing folded laundry, cooking own meals, and washing dishes they used (Masaaki Yatagai, 1984). Modern youths to be nurses are not able to get even own

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everyday life technics though nursing is an aid technics of everyday life to people who were injured their health. In other words, the reality of modern youths is deviated from the government's ideal and nurses to be asked, further ingenuity is required in the basic nursing education from one of youths to a full-fledged nurse.

2. Purpose

The purpose of this study is to reveal each item's effect one another, and get a policy of the way of evaluations on educations in the future through the item analysis of bed-bath technics evaluation on the lecture of technics of bed-bath and clothing.

3. Research Method

3.1 Surveyed

The subjects were 57 freshmen in A College Department of Nursing were conveniently extracted from 103 students. Those students took the class of aid technics of hand-bath, Foot-bath, perineal-care, shampooing, oral-care, bed-bath and clothing, which was built as in one unit, the 12 hours of classroom lecture and 18 hours exercises, 30 hours in total.

3.2 Survey Content

3.2.1 Make Technical Evaluation Table of Bed-Bath

In reference the components of the bed-bath assistance technics (back bed-bath) (Moriko Enokida, Keiko Nakamura, 1996) written of Enokidaetc, we created an evaluation table that consists of 20 items that had the arrival of the bed-bath goal (hereinafter referred to as *bed-bath evaluations table*). According to the Enokida et al, nursing assistance technics consists of following 2 features, *common essential element*: indispensable in common to any assistance technics when to adapt to the subject, *core element*: what characterized the technics (Moriko Enokida & Keiko Nakamura, 1995). *Common essential element* of bed-bath assistant technics is 6 ideas of *environment adjustment, description and understanding, goods of use, body mechanics, observation, privacy protection*, and *core elements* is 2 ideas of *wiping with a moderate pressure and direction, removing soap and water*.

Bed-bath evaluations table has a general rule in it, to contain one of the contents in one evaluation item, to use briefly and clearly as easy word as possible. Each evaluation item was scaled in 3 Likert scale. Choices of each question item were the *perfect (5 points)* and *done insufficiently (3 points)*, *not almost done (1point)*. 9 professors who evaluated student's technics examined every item in bed-bath table their validity of the contents and representation. After correcting some representation of these questions, 20 items all were confirmed to deserve evaluable.

3.2.2 Acts of the Technical Evaluations

The 54 students made 27 two pairs,(role-nurse and role-patient). Role-patients were set to 18-year-old who became unable to mobile in their own by accident. Using the bed-bath evaluations table, teachers made technical evaluations of the role-nurse by the observation method.

3.3 Analytical Methods

We analyzed using statistical analysis software SPSS Statistics19.0.

(1) We evaluated descriptive statistics of bed-bath evaluations table with 20 items.

(2) We evaluated the correlation between each items using Pearson's product-moment correlation coefficient.

3.4 Ethical Considerations

To students of having research cooperation, we told the following, the purpose of the research, methods, disclosure of documents related to the research, optionality of participants to the study, handling of their personal information, publication of the correspondence and research results after the end of the study. With or without consent to the study, there were nothing to do with their results, we described with emphases. Moreover, A university ethics committee permitted the study.

4. Results

4.1 The Minimum Value, the Maximum Value, the Mean Value, and the Standard Deviation of Bed-Bath Evaluations Table

Table 1 showed the minimum value, the maximum value, the mean value, and the standard deviation of bed-bath evaluations table.

The minimum value were 3 points in 3 items of grooming, description and consent, prevention of the heat of vaporization, 0 points in 3 items of consideration, hoe to wipe the chest, environmental adjustment, and 1 point in the other items. Maximum value was 5 points in all items. What showed over 4.5 points in the mean value were 8 items, in order from higher, grooming, confirmation of the act, description and consent, how to wipe eyes, how to wipe upper limbs, prevention of heat of the vaporization, use of clean warm water, how to use towels. The standard deviation of grooming was 0.5 point, did not have bias. What showed under 3.5 points in the mean value were 2 items, in order from lower, temperature of warm water, favorite wipe pressure. The standard deviation of favorite wipe pressure was 1.5 points, had bias.

4.2 Correlation between Each Item of Bed-Bath Evaluations Table

Table 2 shows correlation matrix between each item of bed-bath evaluations table.

What significant positive correlation was observed at the 1% level was following, *Grooming* between *confirmation of the act* ($r = 0.49$), *description and consent* ($r = 0.42$), *secure of the work area* ($r = 0.40$), *how to use towels* ($r = 0.37$), *favorite wipe pressure* ($r = 0.34$), *communication* ($r = 0.50$), and *the confirmation of the act* between *description and consent* ($r = 0.38$), *how to wipe eyes* ($r = 0.39$), *communication* ($r = 0.42$), and *description and consent* between *how to wipe eyes* ($r = 0.40$), *how to wipe upper limbs* ($r = 0.37$), and *room temperature adjustment* between *how to wipe eyes* ($r = 0.45$), and *environmental adjustment* between *consideration* ($r = 0.53$), and *secure of the work area* between *clean warm water* ($r = 0.34$), *how to use towels* ($r = 0.35$), *how to wipe upper limbs* ($r = 0.39$), *how to wipe back* ($r = 0.35$), *protection of privacy* ($r = 0.36$), and *temperature of the warm water* between *clean warm water* ($r = 0.40$), and *clean warm water* between *how to wipe back* ($r = 0.41$), and *how to wipe eyes* between *favorite wipe pressure* ($r = 0.45$), and *how to wipe chest* between *left of not-wiped-place* ($r = 0.41$), and *prevention of the heat of vaporization* between *privacy protection* ($r = 0.46$), *comfort holds* between *communication* ($r = 0.48$).

Table 1 The Minimum Value, the Maximum Value, the Mean Value and the Standard Deviation (N = 57)

	Min.	Max.	M	SD
Grooming	3	5	4.9	0.5
Confirmation of the act	1	5	4.8	0.7
Description and consent	3	5	4.7	0.8
Room temperature adjustment	1	5	4.2	1.4
Environmental adjustment	0	5	3.7	1.9
Secure of the work area	1	5	3.5	1.4
Temperature of the warm water	1	5	3.1	1.2
Clean warm water	1	5	4.5	0.9
How to use towels	1	5	4.5	1.1
How to wipe eyes	1	5	4.6	1.0
How to wipe upper limbs	1	5	4.5	0.9
How to wipe chest	0	5	4.2	1.4
How to wipe back	1	5	3.9	1.4
Left of not-wiped-place	1	5	4.1	1.2
Prevention of the heat of vaporization	3	5	4.5	0.8
Comfort holds	1	5	3.9	1.4
Favorite wipe pressure	1	5	3.4	1.5
Privacy protection	1	5	4.4	1.0
consideration	0	5	4.3	1.5
Communication	1	5	3.7	1.3

5. Discussion

Grooming, scored the highest in the mean value in bed-bath evaluations, shows the suitability as a nurse. According to Albert Mehrabian (1971), the first impression makes human impression in 93%, 55% of sight such as look, expression, behaviors, and eye, and 38% of hearing, such as voice quality, speed, loudness and tone (Hiroshi Sasaki, 2004). Nursing is a science of practice, therefore the important thing is relationships between the patient and the nurse. We discussed this in the class through comparing ourselves to the social demand of nurses. That's why the mean value of *grooming* was high, and given this information, students were able to get the intention of the professor sufficiently. In addition, *grooming* is a significant positive correlation between *confirmation of the act*, *description and consent*, *secure of the work area*, *how to use the towel*, *favorite wipe pressure*, *communication*. These 6 items cover *common essential element* of nursing assistant technics Enokida et al. (1995) wrote, *description and consent*, *environment adjustment*, *goods of use*, *body mechanics* (Moriko Enokida & Keiko Nakamura, 1995), *observation*, *privacy protection*. In other words, it suggests that the motivation and attitude that prepare *grooming* is involved in *technics*.

Table 2 Correlation Matrix between Each Item of Bed Bath Evaluations (N = 56)

	grooming	confirmation of the act	description and consent	Room temperature adjustment	Environmental adjustment	Secure of the work area	Temperature of the warm water	Clean warm water	How to use towels	How to wipe eyes	How to wipe upper limbs	How to wipe chest	How to wipe back	Left of not-wiped-place	Prevention of the heat of vaporization	Comfort holds	Favorite wipe pressure	Privacy protection	consideration	Communication
grooming	1																			
confirmation of the act	0.49**	1																		
description and consent	0.42**	0.38**	1																	
Room temperature adjustment	0.14	0.32*	0.13	1																
Environmental adjustment	0.02	0.08	-0.06	0.08	1															
Secure of the work area	0.40**	0.32	0.22	0.12	0.26	1														
Temperature of the warm water	0.16	0.23	0.28*	0.16	0.18	0.31*	1													
Clean warm water	0.30*	0.26*	0.25	0.23	0.20	0.34**	0.40**	1												
How to use towels	0.37**	0.22	0.12	-0.05	-0.04	0.35**	0.31*	0.23	1											
How to wipe eyes	0.32*	0.39**	0.40**	0.45**	0.02	0.19	0.18	0.18	0.14	1										
How to wipe upper limbs	0.31*	0.28*	0.37**	0.04	0.13	0.39**	0.23	0.23	0.18	0.20	1									
How to wipe chest	0.14	0.04	0.06	0.06	0.23	0.09	0.16	0.01	0.14	0.19	0.27*	1								
How to wipe back	0.08	0.05	0.17	0.09	0.07	0.35**	0.29*	0.41**	0.14	0.06	0.05	0.20	1							
Left of not-wiped-place	0.14	0.11	0.20	0.04	0.24	0.12	0.29*	0.05	0.08	0.26	0.28*	0.41**	0.11	1						
Prevention of the heat of vaporization	0.18	0.07	-0.03	0.05	0.05	0.25	-0.03	-0.02	0.12	-0.05	0.09	-0.02	-0.07	-0.05	1					
Comfort holds	0.28*	0.12	0.10	-0.15	0.23	0.17	0.18	0.12	-0.02	-0.01	0.21	0.36*	0.18	0.31*	-0.08	1				
Favorite wipe pressure	0.34**	0.27*	0.31*	0.16	0.10	0.11	0.09	0.14	0.13	0.45**	0.24	0.10	0.09	0.17	0.10	0.06	1			
Privacy protection	0.12	0.13	0.02	-0.08	0.20	0.36**	0.26*	0.31*	0.32*	0.15	0.26*	0.02	-0.14	0.18	0.46**	-0.05	0.02	1		
consideration	-0.38	0.06	-0.10	0.26	0.53**	-0.02	0.09	0.06	-0.14	0.01	-0.06	-0.08	-0.03	0.23	0.11	0.03	0.07	0.07	1	
Communication	0.50**	0.42**	0.31*	-0.07	0.25	0.33*	0.27*	0.24	0.23	0.10	0.28*	0.13	0.02	0.23	0.17	0.48**	0.24	0.11	0.14	1

On the other hand, *the temperature of the warm water*, scored low in the mean value, shows a significant positive correlation with the *clean water*, which scored high in the mean value. If students had concern about warm water, it is considered to handle it freely. Therefore, probably because students were memorizing the timing to replace the warm water as one of procedures, they were not able to recognize the importance and basis of the temperature of the warm water. According to Murakami (1995), in practices of technics, it can be factors of interfering the good practice for people to have lots of required and troublesome preparations and cleanups (Michiko Murakami & Shigeruta Iwanaga, 1995). Bed-bath technics needs a lot of required goods and spends a lot of time to clean up, thus students were not easy to practice.

Even considering to the learning situation after school, students were expected to have learning more in the image repeatedly than in the practice, therefore the mean value of the *temperature of the warm water* became lower. Moreover, Ooshita (2001) states, because technics to the subject cannot move on their own sets the condition rather complex state, students had trouble to manage the situation of the patients even if the student's knowledge and instructions for technics (Michiko Murakami & Shigeruta Iwanaga, 1995). In this acts, since we set the situation of the patients cannot move on their own, students were not aware of keeping the temperature of the warm water always over 50 degrees Celsius because of the situation's difficulty.

Finally, what mean value was lowest, *favorite wipe pressure* shows a significant positive correlation between *how to wipe eyes*. These items are *core elements* of nursing care technics by Enokida et al. (1995), students should learn them in bed-bath technics. Always to consider wipe pressure is no less than to carry out small operation such

as changing the wiping face from the outer to inner corner of eyes. In addition, *how to wipe eyes* shows a significant positive correlation between *confirmation of the act, description and consent, environmental adjustment*. These items are *common essential element* of the nursing assistance technics by Enokida et al. (1995), also important items in other nursing technics. Therefore, students must learn these items also for other technics of bed-bath technics. Therefore, to get technics of clear description and agreement is not only important itself. It also leads technical provision which students desire such as their own *favorite wipe pressure* etc.

6. Conclusion

Through item analysis of bed-bath evaluations, the following was found.

(1) *Grooming*, scored the highest in the mean value, showed a significant positive correlation between *confirmation of the act, description and consent, secure the work area, how to use towels, favorite wipe pressure, communication*. It suggested that the motivation and attitude that prepare *grooming* is involved in *technics*.

(2) *Favorite wipe pressure*, scored low in the mean value, showed a significant positive correlation between *how to wipe eyes*. Moreover the *how to wipe eye* showed a significant positive correlation between *confirmation of the act, description and consent, environmental adjustment*. Therefore, to get technics of clear description and agreement is not only important itself. It also leads technical provision which students desire. We must teach students these technics in various technical exercises.

7. At the End

We had item analysis for the evaluations of bed-bath technics. In the future, we must clarify the reliability and validity of bed-bath evaluations table and the evaluations' difference between professors.

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