PROSKOLAR

www.proskolar.org

Research Article | POJ Nursing Practice & Research | ISSN: 2577-9516

Comparison of Perceived Requirements for Maternal Delivery between Medical versus Nursing Students

Eriko Tane[1], Yosie Umeno[1], Yoko Ishioka[2], Simon Peter Bahau[3], Roger Lord[4]

[1]*Graduate School, Doctoral Program, Oita University of Nursing and Health Sciences, Oita, Japan*

[2]*School of Nursing, Fukuoka Prefectural University, Fukuoka, Japan*

[3]*Josai International University, Chiba, Japan*

[4]*School of Behavioral and Health Sciences, Faculty of Health Sciences, Australian Catholic University, Brisbane, Australia*

Received Date: *July 02, 2019* ***Accepted Date:*** *December 13, 2019* ***Published Date:*** *December 20, 2019*

Citation: *Eriko Tane, Yosie Umeno, Yoko Ishioka, Simon Peter Bahau, Roger Lord (2019). Comparison of perceived requirements for maternal delivery between medical versus nursing students. POJ Nurs Prac Res. 3(1):1-11. DOI: https://doi.org/10.32648/2577-9516/3/1/4*

Corresponding Author: *Eriko Tane, Graduate School, Doctoral Program, Oita University of Nursing and Health Sciences, 2944-9, Megusuno, Oita City, Oita, 870-1201, Japan, Tel.: +81-97-586-4300, Fax: +81-97-586-4370; E-mail: pochigoto0224@gmail.com.*

Abstract

Purpose

The aim of this study was to investigate the perceptions of intervention and levels of care required for maternal delivery between medical and nursing students. The differences in perceived practices were then considered in relation to health care approaches explored in either the medical or nursing professions.

Methods

The number of individuals surveyed in this study included 98 (6th year) medical students and 78 (4th year) nursing students in the Oita University's Faculty of Medicine. Out of the total 98 medical students recruited to participate in the study, 20 of them did not agree the survey. On the other hand, among the total 78 nursing students recruited, like their peers in medicine, 10 did not agree, whereby, only 68 nursing students were participated. As a result, the final rate of valid responses is 82.9% (78+68/98+78=146/176) as shown in (Table 1). The survey questionnaires were completed anonymously during the three months from August to October in 2014. The topics surveyed included the necessity or not of procedures used in delivery and types of care extended on delivery for mothers or their partners, or awareness for natural childbirth. The ethics committee of the university approved the study.

Results

In the survey of medical care and treatment for delivery, the number of medical students who desired lithotomy position and the use of oxytocin under the direction of obstetricians were significantly larger than that of nursing students (Table 2. Question No.9, No. 13, P=0.0001).

As for the importance of the quality of the delivery experience in relation to the decision of birth place (P=0.0001, Table 2, Question No 2, Table 7, Question No. 2), and comfortable labor position using a location other than the childbirth table (P=0.0001, Table 2, Question No. 4), the number of nursing students was significantly higher than that of medical students.

In accordance with the effective and recommended guidelines in "Care in normal birth: A practical guide (WHO1996)", the authors highlighted survey questions that included consideration of "Planning of childbirth together with a partner". This survey approach also included "Information for choice of birth place", Respect for decisions as to who should be accompanying on childbirth and "Comfortable labor position or favorite birth or delivery places other than the childbirth delivery table."

(1) The ratio of medical students significantly supports that birth plan should be decided with partner was higher when compared with nursing students (Table 7. P=0.017).

(2) As for information for choice of birthplace, more nursing students significantly support that birth place should be consented as compared with medical students (Table 7. P=0.0001).

(3) More nursing students significantly support the person accompanying on delivery (Table 7. P=0.048).

(4) Both nursing students and medical students agree with "Comfortable labor position or favorite delivery or birth places other than the childbirth delivery table" (Table 7. P=0.006)

Table 8 has shown no recommendation by WHO such as enema, shaving, preventive vascular access, conventional lithotomy position. No such difference could be seen between both the medical students and nursing students as in Table 4.

Consequently, the medical students indicated that higher preference for more medical treatment including promotion of delivery due to oxytocin treatment and lithotomy position was necessary compared to the nursing students' expression of such desirability of the approach.

Conclusion

The study showed a significant difference in the perceived requirements for child birth or delivery between medical students and nursing students. The main differences are suspected to be due to differences in the educational programs and backgrounds which both the medical students or nursing students received while studying and training for their respective professions.

INTRODUCTION

In Japan, generally the method of childbirth or delivery at hospitals has undergone drastic changes where more Japanese people are said to be requiring specialized medical assistance using established methods and equipment.

In order to examine childbirth or delivery in 1996, advanced countries had taken note of the care of childbirth or delivery based on well-established medical procedures under the World Health Organization (WHO) issued as universal guidelines "Care in normal birth; A practical guide" [1,2].

In 2007, Japan concluded that this international guideline "Care in normal birth; A practical guide" increased a more effective combination therapy with very few harmful effects. This practical guide responded to the proliferation of practices designed to start, augment, accelerate, regulate or monitor the physiological process of labor [3,4].

The Japanese consensus reached by an international group of experts for the routine care of women during uncomplicated labor and childbirth.

In Japan, all staff members including medical doctors and nursing staff involved in labor does not always have unified recognition about it. This is the case, especially, during school days for Japanese medical students and nursing students, they undergo different education and experiences related to pregnancy and delivery.

The authors predicted that such differences of recognition about labor in nursing students and medical students might be existed since undergraduate years. In this study, the authors plan on evaluating the recognition against labor between nursing students and medical students and discuss how and why it is different between two groups. Additionally, each team member surrounding pregnant women must mutually cooperate with each other to secure the safety during labor [5,6,7].

METHODS

The survey period in the study for university "A" was conducted between August to October 2014. The subjects recruited for the study were 98 (6th year) medical students and 78 (4th year) nursing students. Among them, 20 medical students and 10 nursing students did not agree with the survey. Therefore, finally, those targeted were 78 medical students and 68 nursing students. Consequently, the valid response rate was 146/176 (82.9%) as shown in Table 1.

This research was performed in accordance with the WHO and the Japanese Department of Pregnancy and Delivery Health "Guideline of safe delivery based on the scientific evidence". In accordance with effective and recommended guidelines in "Care in normal birth: a practical guide (WHO 1996)", the authors highlighted the survey questions that included consideration of: "Planning of childbirth together with a partner". This survey approach also included "Information for choice of delivery or birthplace", Respect for decision as to who should be accompanying on delivery or childbirth and "Comfortable labor position or favorite delivery or birthplaces other than the childbirth delivery table."

The survey questions were monitored prior and tested by three representatives including medical doctors, medical students, midwives, nurses and nursing students. The structure of all questions was checked in advance by this group to ensure no ambiguity existed.

Personal details of survey participants such as age, sex, married

or single, children, future job aspirations in gynecology were considered because job aspirations in the gynecology may mean a more detailed responses and/or bias health care needed to be provided.

Necessity for intervention during delivery: 16 subjects are listed and as described below (Table 2).

1. Delivery schedule
2. Decision of birth place
3. Respective decision to accompany pregnant women
4. No restriction during delivery
5. Pain relief due to massage or relaxation
6. Pain relief due to epidural anesthesia
7. Enema before delivery
8. Shaving
9. Promotion of delivery due to Oxytocin treatment in delivery
10. Frequent pelvic examination
11. Withdrawing urine during delivery
12. Transfusion during delivery
13. Lithotomy position during delivery
14. Peritectomy in delivery
15. Preventive Oxytocin treatment to prevent bleeding in delivery
16. Breast feeding within one hour after birth

Statistical analysis

The IBM SPSS Statistics 20.0 (August 2011) was prepared to determine the difference between medical students and nursing students. The U test following Mann-Whitney was performed for cure and intervention or approach. The X2 analysis was carried out to determine the differences between Tables 3 and 4.

Ethical commitment

This study marked No.865, was approved in 2014 by IRB (Institutional Review Board) in Oita University of Nursing and Health Sciences, Oita, Japan.

RESULTS

Survey

Survey period for university "A" was conducted between August to October 2014. A total of 98 (6th year) medical students and 78 (4th year) nursing students were enrolled in the study. Among them, 20 medical students and 10 nursing students did not agree with the survey. Finally, the authors targeted 78 medical students and 68 nursing students. Therefore, the effective or valid response rate was 146/176 (82.9%). Among the 78 medical students, there were 45 (57.7%) male students and 33 (42.3%) female students. 62 candidates out of the 68 nursing students (91.1%) were females while only 6 were males (8.9%). The age of the male medical students was 25.8±3.38 (23~37) year old, while the female medical students was 25.3±3.56 (23~38) year old. In comparison, the age of male nursing students was 21.8±0.75 (21~23) year old, while the female nursing students was 22.0±1.88 (21~33) year old as shown in (Table1).

Medical Intervention and Care

The perceived necessity of medical intervention and care is shown in Table 2. When compared with medical students, the nursing students strongly recommend for the following subjects.

1. Delivery schedule (P=0.039)
2. Decision of birth place (P=0.0001)
4. No restriction during delivery (P=0.0001)
6. Pain relief due to epidural anesthesia (P=0.012)

With regard to subject 6, the nursing students have the perception that the pregnant women can use epidural pain killers during delivery if they wish to, thus, suggesting that this is thought to be a safe and acceptable practice during delivery.

In comparison, the medical students indicated significant differences in the following subjects with nursing students as shown in (Table 2).

9. Promotion of delivery due to Oxytocin treatment in delivery (P=0.0001)
10. Frequent internal diagnosis (P=0.002)
11. Withdrawing urine during delivery (P=0.002)
12. Transfusion during delivery (P=0.0001)
13. Lithotomy position of second stage of delivery (P=0.0001)

Further analysis was performed to compare the differences between male medical students (N=45) and female medical students (N=33). In Japan, the number of male nursing students was too small everywhere. This university also shows only 6 (N=6) male nursing students and excluded from this study.

Therefore, the comparison was done initially between male medical students (N=45) and female nursing students (N=62). Table 3 showed the difference between male medical students (N=45) and female medical students (N=33) in subject 4 "No restriction during delivery" (P=0.046) and subject 8 "Shaving" (P=0.012).

Significantly, high sensitivity and characteristics of female medical students could be seen when compared with male medical students.

In Table 4, the comparison also showed clearly between female medical students (N=33) and female nurse students (N=62). Female Medical Students significantly prefer "Medical decision" in subject 9 "Promotion of delivery due to Oxytocin treatment in delivery".

In Table 5, female nursing students (N=62) significantly prefer "Medical decision" in subjects 2. "Decision of birthplace",3. "Respective decision to accompany pregnant women" and 4. "No restriction during delivery" than female medical students

(N=33). However, in subject 10 "Frequent pelvic examination" was significantly denied.

Regarding subjects 12 "Transfusion during delivery" (P=0.030) and 13 "Lithotomy position during delivery" (P=0.009), the female medical students (N=33) showed significantly large compared with female nursing students (N=62) as shown in (Table 6).

WHO's 'Care in normal birth: A practical guide' shows the difference between nursing students and medical students in Tables 7 and 8. According to subjects based on WHO recommendation (category A, Table 7), the nursing students significantly consented "Birth plan (P=0.017)", "Birth Place (P=0.0001)", "Together in the delivery room (P=0.048)" and "No restriction during delivery (P=0.006)". In addition, the nursing students significantly declined "Breast feeding within one hour after delivery" (P=0.029). In category B, all 4 items showed no significant differences between medical students and nurse students (Table 8).

Table 1: Characterization

n%

		Medical students n=78, 53.4%		Nursing students n=68, 46.6%	
		Male 45 (57.7%)	Female 33 (42.3%)	Male 6 (8.9%)	Female 62 (91.1%)
Age	mean±SED	25.8±3.38	25.3 ±3.56	21.8±0.75	22.0±1.88
Marital status	Married	1 (2.2%)	1 (3.0%)	0 (0%)	1 (1.6%)
	Single	44 (97.8%)	32 (97.0%)	6 (100%)	61 (98.4%)
Children	Children	1 (2.2%)	1 (3.0%)	0 (0%)	1 (1.6%)
	No children	44 (97.8%)	32 (97.0%)	6 (100%)	61 (98.4%)
Future job application	Gynecology	1 (2.2%)	2 (6.1%)	0 (0%)	4 (6.5%)
	Other fields	37 (82.2%)	23 (69.7%)	6 (100%)	37 (59.7%)
	Unknown	7 (15.6%)	8 (24.2%)	0 (0%)	21 (33.9%)

Among a total 176 people, 20 medical students and 10 nursing students did not agree with the survey. Finally, we have targeted 78 medical students and 68 nursing students. Therefore, effective answer rate was 146/176 (82.9%) in Table 1.

Table 2: Medical Intervention and Care Comparisons

Subject		**Medical students**			**Nursing students**			**All Medical vs All Nursing P value #1**	**Medical Male vs Medical Female P value #2**	**Medical Male vs Nursing Female P value #3**	**Medical Female vs Nursing Female P value #4**
		All N=78	**Male N=45 (57.7 %)**	**Female N=33 (42.3 %)**	**All N=68**	**Male N=6 (8.9 %)**	**Female N=62 (91.1%)**				
1. Delivery schedule	Not necessary	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.039*	0.772 ns	0.174 ns	0.234 ns
	Own decision	51 (65.4)	29 (64.4)	22 (66.7)	31 (45.6)	1 (16.7)	30 (48.4)				
	Medical decision	4 (5.1)	3 (6.7)	1 (3.0)	3 (4.4)	0 (0)	3 (4.8)				
	Necessary	23 (29.5)	13 (28.9)	10 (30.3)	34 (50.0)	5 (83.3)	29 (46.8)				
2. Decision of birthplace	Not necessary	1 (1.3)	1 (2.2)	0 (0)	0 (0)	0 (0)	0 (0)	0.0001 **	0.253 ns	0.013 *	0.0001 **
	Own decision	25 (32.1)	15 (33.3)	10 (30.3)	8 (11.8)	0 (0)	8 (12.9)				
	Medical decision	12 (15.4)	4 (8.9)	8 (24.2)	2 (2.9)	0 (0)	2 (3.2)				
	Necessary	40 (51.3)	25 (55.6)	15 (45.5)	58 (85.3)	6 (100)	52 (83.9)				

3. Respective decision to accompany pregnant women	Not necessary	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.052 ns	0.447 ns	0.002 **	0.045 *
	Own decision	21 (26.9)	14 (31.1)	7 (21.2)	13 (19.1)	2 (33.3)	11 (17.7)				
	Medical decision	9 (11.5)	6 (13.3)	3 (9.1)	2 (2.9)	2 (33.3)	0 (0)				
	Necessary	48 (61.5)	25 (55.6)	23 (69.7)	53 (77.9)	2 (33.3)	51 (82.3)				
4. No restriction during delivery	Not necessary	15 (19.2)	11 (24.4)	4 (12.1)	0 (0)	0 (0)	0 (0)	0.0001 **	0.046 *	0.0001 **	0.001 **
	Own decision	20 (25.6)	7 (15.6)	13 (39.4)	31 (45.6)	3 (50.0)	28 (45.2)				
	Medical decision	40 (51.3)	24 (53.3)	16 (48.5)	24 (35.3)	3 (50.0)	21 (33.9)				
	Necessary	3 (3.8)	3 (6.7)	0 (0)	13 (19.1)	0 (0)	13 (21.0)				
5. Pain relief due to massage or relaxation	Not necessary	2 (2.6)	2 (4.4)	0 (0)	0 (0)	0 (0)	0 (0)	0.237 ns	0.187 ns	0.015 *	0.827 ns
	Own decision	36 (46.2)	19 (42.2)	17 (51.5)	35 (51.5)	1 (16.7)	34 (54.8)				
	Medical decision	24 (30.8)	17 (37.8)	7 (21.2)	14 (20.6)	4 (66.7)	10 (16.1)				
	Necessary	16 (20.5)	7 (15.6)	9 (27.3)	19 (27.9)	1 (16.7)	18 (29.0)				
6. Pain relief due to epidural anesthesia	Not necessary	7 (9.0)	6 (13.3)	1 (3.0)	4 (5.9)	0 (0)	4 (6.5)	0.012 *	0.111 ns	0.001 **	0.223 ns
	Own decision	27 (34.6)	12 (26.7)	15 (45.5)	41 (60.3)	2 (33.3)	39 (62.9)				
	Medical decision	43 (55.1)	27 (60.0)	16 (48.5)	21 (30.9)	4 (66.7)	17 (27.4)				
	Necessary	1 (1.3)	0 (0)	1 (3.0)	2 (2.9)	0 (0)	2 (3.2)				
7. Enema before delivery	Not necessary	2 (2.6)	2 (4.4)	0 (0)	0 (0)	0 (0)	0 (0)	0.353 ns	0.074 ns	0.073 ns	0.808 ns
	Own decision	15 (19.2)	6 (13.3)	9 (27.3)	19 (27.9)	3 (50.0)	16 (25.8)				
	Medical decision	48 (61.5)	32 (71.1)	16 (48.5)	37 (54.4)	3 (50.0)	34 (54.8)				
	Necessary	13 (16.7)	5 (11.1)	8 (24.2)	12 (17.6)	0 (0)	12 (19.4)				
8. Shaving	Not necessary	3 (3.8)	3 (6.7)	0 (0)	2 (2.9)	0 (0)	2 (3.2)	0.071 ns	0.012 *	0.011 *	0.549 ns
	Own decision	14 (17.9)	3 (6.7)	11 (33.3)	21 (30.9)	3 (50.0)	18 (29.0)				
	Medical decision	59 (75.6)	38 (84.4)	21 (63.6)	39 (57.4)	2 (33.3)	37 (59.7)				
	Necessary	2 (2.6)	1 (2.2)	1 (3.0)	6 (8.8)	1 (16.7)	5 (8.1)				

9. Promotion of delivery due to Oxytocin treatment in delivery	Not necessary	1 (1.3)	1 (2.2)	0 (0)	3 (4.4)	0 (0)	3 (4.8)	0.0001 **	0.412 ns	0.003 **	0.027 *
	Own decision	3 (3.8)	1 (2.2)	2 (6.1)	18 (26.5)	2 (33.3)	16 (25.8)				
	Medical decision	73 (93.6)	43 (95.6)	30 (90.9)	47 (69.1)	4 (66.7)	43 (69.4)				
	Necessary	1 (1.3)	0 (0)	1 (3.0)	0 (0)	0 (0)	0 (0)				
10.Frequent pelvic examination	Not necessary	10 (12.8)	5 (11.1)	5 (15.2)	19 (27.9)	0 (0)	19 (30.6)	0.002 **	0.298 ns	0.005 **	0.004 **
	Own decision	8 (10.3)	6 (13.3)	2 (6.1)	18 (26.5)	1 (16.7)	17 (27.4)				
	Medical decision	57 (73.1)	31 (68.9)	26 (78.8)	30 (44.1)	5 (83.3)	25 (40.3)				
	Necessary	3 (3.8)	3 (6.7)	0 (0)	1 (1.5)	0 (0)	1 (1.6)				
11. Withdrawing urine during delivery	Not necessary	4 (5.1)	3 (6.7)	1 (3.0)	3 (4.4)	0 (0)	3 (4.8)	0.002 **	0.756 ns	0.028 *	0.077 ns
	Own decision	2 (2.6)	1 (2.2)	1 (3.0)	16 (23.5)	2 (33.3)	14 (22.6)				
	Medical decision	67 (85.9)	39 (86.7)	28 (84.8)	46 (67.6)	4 (66.7)	42 (67.7)				
	Necessary	5 (6.4)	2 (4.4)	3 (9.1)	3 (4.4)	0 (0)	3 (4.8)				
12. Transfusion during delivery	Not necessary	3 (3.8)	2 (4.4)	1 (3.0)	2 (2.9)	0 (0)	2 (3.2)	0.0001 **	0.855 ns	0.004 **	0.030 *
	Own decision	0 (0)	0 (0)	0 (0)	8 (11.8)	0 (0)	8 (12.9)				
	Medical decision	47 (60.3)	26 (57.8)	21 (63.6)	50 (73.5)	6 (100)	44 (71.0)				
	Necessary	28 (35.9)	17 (37.8)	11 (33.3)	8 (11.8)	0 (0)	8 (12.9)				
13. Lithotomy position during delivery	Not necessary	0 (0)	0 (0)	0 (0)	1 (1.5)	0 (0)	1 (1.6)	0.0001 **	0.950 ns	0.002 **	0.009 **
	Own decision	2 (2.6)	1 (2.2)	1 (3.0)	19 (27.9)	1 (16.7)	18 (29.0)				
	Medical decision	58 (74.4)	34 (75.6)	24 (72.7)	41 (60.3)	4 (66.7)	37 (59.7)				
	Necessary	18 (23.1)	10 (22.2)	8 (24.2)	7 (10.3)	1 (16.7)	6 (9.7)				
14. Peritectomy in delivery	Not necessary	1 (1.3)	1 (2.2)	0 (0)	0 (0)	0 (0)	0 (0)	0.104 ns	0.664 ns	0.184 ns	0.206 ns
	Own decision	4 (5.1)	2 (4.4)	2 (6.1)	11 (16.2)	1 (16.7)	10 (16.1)				
	Medical decision	70 (89.7)	41 (91.1)	29 (87.9)	56 (82.4)	5 (83.3)	51 (82.3)				
	Necessary	3 (3.8)	1 (2.2)	2 (6.1)	1 (1.5)	0 (0)	1 (1.6)				

15. Preventive Oxytocin treatment to prevent bleeding in delivery	Not necessary	2 (2.6)	1 (2.2)	1 (3.0)	3 (4.4)	0 (0)	3 (4.8)	0.399 ns	0.591 ns	0.541 ns	0.438 ns
	Own decision	1 (1.3)	1 (2.2)	0 (0)	4 (5.9)	0 (0)	4 (6.5)				
	Medical decision	70 (89.7)	39 (86.7)	31 (93.9)	58 (85.3)	6 (100)	52 (83.9)				
	Necessary	5 (6.4)	4 (8.9)	1 (3.0)	3 (4.4)	0 (0)	3 (4.8)				
16. Breast feeding within one hour after birth	Not necessary	0 (0)	0 (0)	0 (0)	2 (2.9)	0 (0)	2 (3.2)	0.076 ns	0.456 ns	0.098 ns	0.570 ns
	Own decision	9 (11.5)	5 (11.1)	4 (12.1)	12 (17.6)	1 (6.7)	11 (17.7)				
	Medical decision	8 (10.3)	3 (6.7)	5 (15.2)	13 (19.1)	2 (33.3)	11 (17.7)				
	Necessary	61 (78.2)	37 (82.2)	24 (72.7)	41 (60.3)	3 (50.0)	38 (61.3)				

ns : not significant. #1-#4 * <0.05 ** <0.01 Mann=Whitney U test

Table 3: Comparisons between Female Medical Students (N=33) vs Male Medical Students (N=45)

Female Medical Students significantly prefer "Own decision" on subject 4. "No restriction during delivery" and subject 8. "Shaving" when compared with Male Medical Students

Subject		**Male Medical Students**	**Female Medical Students**	**Medical Male vs Medical Female**
4. No restriction during delivery	Not necessary	11 (24.4)	4 (12.1)	0.046 *
	Own decision	**7 (15.6)**	**13 (39.4)**	
	Medical decision	24 (53.3)	16 (48.5)	
	Necessary	3 (6.7)	0 (0)	
8. Shaving	Not necessary	3 (6.7)	0 (0)	0.012 *
	Own decision	**3 (6.7)**	**11 (33.3)**	
	Medical decision	38 (84.4)	21 (63.6)	
	Necessary	1 (2.2)	1 (3.0)	

Female Medical Students X^2

Table 4: Comparison between Female Medical Students (N=33) vs. Female Nursing Students (N=62)

Female Medical Students significantly prefer "Medical decision" on subject 9. Promotion of delivery due to Oxytocin treatment in delivery

Subject		Female Medical Students (N=33)	Female Nursing Students (N=62)	Female Medical Vs. Female Nursing
9. Promotion of delivery due to Oxytocin treatment in delivery	Not necessary	0 (0)	3 (4.8)	**0.027 ***
	Own decision	2 (6.1)	16 (25.8)	
	Medical decision	**30 (90.9)**	**43 (69.4)**	
	Necessary	1 (3.0)	0 (0)	

Table 5: Comparisons between Female Nursing Students (N=62) vs Female Medical Students (N=33)

Female Nursing Students significantly prefer "Medical decision" on subjects 2. "Decision of birthplace", 3. "Respective decision to accompany pregnant women" and 10. "Frequent pelvic examination". However, Female Medical Students strongly opt for subject 4."No restriction during delivery ".

Subject		Female Nursing Students (N=62)	Female Medical Students (N=33)	Female Nursing Vs. Female Medical
2. Decision of birth-place	Not necessary	0 (0)	0 (0)	
	Own decision	10 (30.3)	8 (12.9)	
	Medical decision	**8 (24.2)**	**2 (3.2)**	
	Necessary	15 (45.5)	52 (83.9)	**0.0001**
3. Respective decision to accompany pregnant women	Not necessary	0 (0)	0 (0)	
	Own decision	7 (21.2)	11 (17.7)	
	Medical decision	**3 (9.1)**	**0 (0)**	
	Necessary	23 (69.7)	51 (82.3)	**0.0045**
4. No restriction during delivery	Not necessary	4 (12.1)	0 (0)	
	Own decision	13 (39.4)	28 (45.2)	
	Medical decision	16 (48.5)	21 (33.9)	
	Necessary	**0 (0)**	**13 (21.0)**	**0.001**
10. Frequent pelvic examination	Not necessary	10 (12.8)	19 (27.9)	
	Own decision	8 (10.3)	18 (26.5)	
	Medical decision	**57 (73.1)**	**30 (44.1)**	
	Necessary	3 (3.8)	1 (1.5)	**0.004**

Table 6: Comparisons between female medical students and female nursing students regarding subject 12. Transfusion during delivery and subject 13. Lithotomy position during delivery

Subject		Female Medical Students (N=33)	Female Nursing Students (N=62)	Female Medical Vs. Female Nursing
12. Transfusion during delivery	Not necessary	1 (3.0)	2 (3.2)	
	Own decision	0 (0)	8 (12.9)	
	Medical decision	21 (63.6)	44 (71.0)	
	Necessary	**11(33.3)**	**8 (12.9)**	**P=0.030**
13. Lithotomy position during delivery	Not necessary	0 (0)	1 (1.6)	
	Own decision	1 (3.0)	18 (29.0)	
	Medical decision	24 (72.7)	37 (59.7)	
	Necessary	**8 (24.2)**	**6 (9.7)**	**P=0.009**

Table 7: Subjects based on seven WHO recommendation (category A)

Nurse students significantly consented "Birth plan (P=0.017)", "Birth Place (P=0.0001)", "Together in the delivery room (P=0.048)" and "No restriction during delivery (P=0.006)".Nurse students significantly declined "Breast feeding within one hour after delivery" (P=0.029).

Subjects		**Medical students % N=78**	**Nursing students % N=68**	**P value**
Birth plan	Consented	29.5	50.0	0.017*
	Declined	70.5	50.0	
Birth place	Consented	51.3	85.3	0.0001**
	Declined	48.7	14.7	
Together in the delivery room	Consented	61.5	77.9	0.048*
	Declined	38.5	22.1	
No restriction during delivery	Consented	3.8	19.1	0.006**
	Declined	96.2	80.9	
Prophylactic Oxytocin during delivery with bleeding	Consented	20.5	27.9	0.334
	Declined	79.5	72.1	
Pain relief Such as massages	Consented	6.4	4.4	0.724
	Declined	93.6	95.6	
Breast feeding Within one hour after delivery	Consented	78.2	60.3	0.029 *
	Declined	21.8	39.7	

* <0.05 ** <0.01 (X^2)

Consented~ strongly recommended according to WHO 59 items (1996)

Declined~ individually recommended

Table 8: Four subjects not recommended by WHO (category B)

		Department of Medicine N=78	School of Nursing N=68	Accurate significant established statistics
Customary enema	WHO standard (correct answer)	2.6%	0%	0.499
	Others	97.4%	100%	
Customary shaving	WHO standard (correct answer)	3.8%	2.9%	1.000
	Others	96.2%	97.1%	
Preventive vascular access	WHO standard (correct answer)	3.8%	2.9%	1.000
	Others	96.2%	97.1%	
Conventional lithotomy position	WHO standard (correct answer)	0%	1.5%	0.466
	Others	100%	98.5%	

DISCUSSION

Recognition of delivery between medical and nursing students

There were a significantly higher number of medical students that indicated medical practitioners should perform shaving and provide oxytocin to accelerate childbirth delivery. This included conducting a pelvic examination with a preventative urine guide receptacle to allow securing of blood vessels compared to a lithotomy position favored by the nursing students. The main focus of practice from medical students was towards obstetrics and based on diagnosis, diseases and the operation. It is difficult for medical students to gain an understanding of the maternal instincts and perception based purely on observation of the interaction between the mother and child. In Japan, every medical student deals with high risk pregnancy, delivery and puerperium and is less focused on the emotional safety and concerns of the mother and child. On the other hand, Japanese nursing students see the usual pregnancy and delivery in the private hospitals or midwiferies.

Conversely, nursing education focuses not only on perinatal care but also specifically on nursing care and management. High risk pregnancy and nursing education focuses on both perinatal nursing care as well as psychological support. This discrepancy of practical and educational training is obvious between medical and nursing students. As such, one can see the nursing students demonstrating a statistically higher correlation for content covered in Table 3 when compared with medical students. On the other hand, the medical students are not interested in content that covers the delivery plan, information service, supporting staff, and freedom except for the child delivery. These concerns are addressed and enhanced by increasing the comfort of pregnant women so they can decide independently how they would like these to be approached. The ability of the mothers to engage in these processes successfully depends on the delivery and the health status of both the mother and child. Medical students prefer to leave this decision to the people who take care of the mother. Where a pregnancy is uncomplicated, a pregnant woman can use informed consent to direct how this care is provided. Both medical and nursing students showed low coincidence with those of WHO in relation to Table 4. According to a recent survey, only 1% of hospital and maternity hospital health care provides routine enema [5]. Hair removal cream or shaving before and after operation did not affect any infection. Therefore, medical and nursing students recognized the need to teach that hair removal and enema should be avoided. According to the comparisons made between male medical students and female medical students, the male medical students prefer to use a scheduled delivery involving induction of the labor pain or continuous heart rate monitoring.

Female medical students statistically preferred to use massage without pain killers during delivery by midwifery in Japan. The process of delivery by a midwife may be different between USA and Japan. This also means that there is a preferential difference in medical practice between medical students who have the same education. Statistically female medical and nursing students, both strive for more continuous and comfortable methods of care. The continuous care approaches include how to write the childbirth expectancy schedule and continuous care by the same midwife. The comfortable care approaches include what type of position is most suitable for pregnant women during delivery and what massage the midwife should provide if delivery pain experienced and in the absence of any pharmaceutical intervention. This means the observed differences in medical management are independent of gender and directly a consequence of the educational curriculum. Men, however, are influenced more by approaches that are safer and more convenient when compared to women.

Two types of text books are available in Japanese; one for medical students and another for nursing students. The main reasons are text books being written by obstetricians for medical students, another type of text books are written by midwife for nursing students. The concept of either of the books is slightly different although they are written in Japanese. This social distinction associated with men also relates to conditioning and expectations to increase paternal property once they start a family and provide financial security and stability. Our survey shows that men are involved in observing the delivery of a child but their focus is more concerned with the protection and safety of the mother and children. Women, on the other hand, experience delivery and are likely to focus on comfort during pregnancy. More female nursing students consider comfort and continuous care than female medical students. This conditioning results from nursing students being always around other nurses and midwives and a greater overall exposure to maternal care. Female nursing students encounter and interact more closely with the birth delivery process more than female medical students on a more regular basis. This results in a greater understanding and empathy for the mother and appreciation of the emotional support needed during labor.

Expecting the future delivery and suggestion for obstetric care as a health occupational student

There is a difference between the recognized requirements of delivery between medical and nursing students. This is due to the differences in both educational content and environment. According to the guidelines of the obstetric gynecology clinic-obstetric version, midwives contribute professionally to serve and satisfy the emotional and social needs of pregnant women [1,2,6,8]. Therefore, both medical and nursing students develop experience and understanding of the delivery from either a medical doctor or midwife and widely precede the delivery. For development of obstetric care, medical students guarantee not only safety for pregnant women but also respect informed consent and learn more about comfort. Nursing students support for low risk pregnant women as well as require safe and comfort against high risk pregnant women who may need a medical doctor. Nursing students also stand between the medical doctor and pregnant women based on the reliability of the medical doctor. It is important for nursing students to understand the nurse's role for this mutual relationship to function properly. These procedures will lead to a mutual understanding of the roles between obstetrician and nursing professionals.

The limitation of research and forthcoming challenges

The research was specific to university whose direction and environment affected the answers and could not be normalized with other universities. The questionnaire survey was made with previously published reference by the author. We are further investigating whether this research will be able to be normalized after the questionnaire survey is well accepted and validated.

CONCLUSION

We conclude that differences do exist in the recognition of labor between medical and nursing students. This is due to the educational environments and backgrounds of the both students who have been studied. Mutual understanding can lead to open the eyes of both the medical and nursing students to broaden the concept of pregnancy and labor.

ACKNOWLEDGEMENTS

We deeply appreciate the assistance of the participants who volunteered to be involved in this study.

REFERENCES

1. World Health Organization. Maternal and Newborn Health/Safe Motherhood Unit. Care in normal birth: A practical guide. Report of a Technical Working Group. Doc. No. WHO/FRH/MSM/96.24. Geneva, Switzerland: WHO, 19996, p. 1-54.
2. WHO. Care in Normal Birth: A Practical Guide. Technical Working Group, World Health Organization. Birth. 1997;24(2):121-3.
3. Iwatani S, Akai Y, Uchiyama K, Kagitani H, Yamakawa M. On the current conditions of perinatal care in Japanese hospitals and points for improvement regarding Care in normal birth (a practical guide in 1996). Jpn J Matern Health. 2006;46(4): 666-673 (In Japanese).
4. Iwatani S, Uchiyama K, Yamakawa M, Sato K. Changes in care in normal birth: a practical guide (WHO) at Japanese hospitals - Comparison with implementation statuses of categories A and B from 2002 to 2007. Jpn J Matern Health. 2009;50(2):284–92 (In Japanese).
5. Masako Samejima. Psychological Changes of Fathers and Mothers during Pregnancy (1). Japanese Journal of Nursing Research. 1999;22(5):23-35 (In Japanese).
6. Shimizu K, Kataoka Y, Eto H, Asai H, Yaju Y, Iida M, et al. Implementation of the evidence-based guidelines for midwifery care: a survey of care policy during the first stage of labor among hospitals, clinics and midwifery birth centers in Japan. J Jpn Acad Midwifery. 2013;27(2):267-278.
7. Tanner J, Norrie P, Melen K. Preoperative hair removal to reduce surgical site infection. Cochrane Database Syst Rev. 2011;(11):CD004122.
8. Crowther CA, Dodd JM, Hiller JE, Haslam RR, Robinson JS, et al. Planned vaginal birth or elective repeat caesarean: patient preference restricted cohort with nested randomised trial. PLoS Med. 2012;9(3):e1001192.