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Subjectivity on Induced Abortion of Nursing Students: Q-Methodology

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ABSTRACT

The purposes of this study are to identify the subjectivity of induced abortion perceived by nursing school students.

Aim and Scope: This study chose 20 junior and senior students who finished practical training in Nursing Department of A College, and asked them to sort 38 statements on induced abortion.

Method: It describes characteristics of different factors of subjectivity, using Q methodology. Data Collected were analyzed using QUANL PC Program. The analysis found out that perceptions of respondents can be divided into three factors: 'negative perception type', 'result perception factor', and 'cause-finding factor'.

Conclusion: This study will serve as the basic data to figure out perceptions of nursing students on induced abortion and to educate those students.

Key Words: Induced Abortion, Nursing Student, Subjectivity, Q-Methodology, Nurses

INTRODUCTION

Induced abortion is the strongest mechanism to block unwanted childbirth. According to the 2018 Inspection of Practices on Induced Abortion published by Korea Institute for Health and Social Affairs, 7 out of 100 women of 15-44 years old or 1 out of 5 pregnant women have had induced abortion. Among age groups, those who are 25-29 years old took 30% of women who had induced abortion, composing the largest proportion.¹ 33-40% of respondents mentioned avoiding the birth of an unwanted child as the main reason for selecting abortion.^{1,2}

Induced abortion often involves many problems in the aspects of demography, society, public health, and ethics. In the early 1800s, England first regulated surgery on induced abortion,³ making it to be performed secretly. Such illegal treatment on abortion caused 18% of maternal mortality in America in the 1930s and 25% of it in America in 1965.⁴

If someone underwent induced abortion treatment because of unwanted pregnancy and has suffered from complications and after-effects, and if she does not have proper prenatal care after pregnancy, it can seriously threaten the health of

the pregnant woman and unborn child.⁵ In particular, induced abortion can damage her mental, and socio-cultural health as well as physical health.⁶ Some women are hospitalized or get outpatient treatment because of induced abortion and damages caused by it.

Nurses are core manpower who not only take the largest part in public health and medical care places but contact patients most often. Thus, they need to provide patients with safe and high-level nursing within a limited time in rapidly changing public health and medical care environment.⁷ Subjective perception of nurses when they face patients greatly influences their nursing of the patient. Therefore, it is important to examine the perception of nurses and nurse candidates.

There are not enough studies on induced abortion using students of nursing department as research targets. Q methodology analyzes subjectivity structure of interviewees and allows us to understand the characteristics of different factors of subjectivity.⁸ As perceptions of nursing students on induced abortion are subjective experiences, Q methodology is proper to identify factors of perceptions of nursing students on it.

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Accordingly, this study intends to provide basic data necessary to develop programs on education on induced abortion to nurse candidates before they start their works in hospitals, by examining subjectivity structure of nursing students on induced abortion.

PURPOSE

The purposes of this study examine factors of subjective perceptions and characteristics of those perceptions of nursing students on induced abortion by applying Q methodology, to provide information on nursing students who will care patients of induced abortion, and provide basic data on an education program for nursing students. Specific research purposes are as follows.

- 1) Categorize subjective perceptions of nursing students on induced abortion.
- 2) Analyze and describe the characteristics of different factors of perceptions on induced abortion of them.

MATERIALS AND METHODS

STUDY DESIGN

To achieve research purposes, this study examined the literature on induced abortion and related materials and surveyed nursing students to find out factors of subjective perceptions on induced abortion among nursing students.

Q-POPULATION AND Q-SAMPLING SELECTION

To get comprehensive statements on the effects of induced abortion, this study extracted Q population of more than 200 statements in three areas from reviews of domestic and foreign literature on abortion, open-ended questionnaire, and in-depth interview of individuals. Besides, this study extracted Q population of more than 100 statements through reviews of domestic and foreign literature. By reviewing and revising the Q sample extracted from such a process, this study selected the 38 distinct statements.

P-SAMPLE SELECTION METHOD

Q method is a qualitative survey method focusing on subjectivity within the individual, and emphasizing the consistency of individual, rather than differences between people. It is based on small sample doctrine which assumes that if p-sample becomes large, many people can crowd around a specific component, and its characteristics are not revealed.⁹ P-sample in this study is 20 nursing school students who fully understood the purposes of the survey and voluntarily participated in the survey.

Q-CLASSIFICATION AND DATA ANALYSIS METHODS

Q sorting is the process where each of the participants belonging to p-sample makes the voluntary definition of induced

abortion by sorting statements in Q-sample with forced normal distribution method.⁹ The data were collected from 20 students in the Nursing Department of OO College with cards containing statements. The time spent by one participant in Q sorting was 30-45 minutes on average. The participant responded to each statement of the Q sample by pointing his or her preference on the 12 point scale ranging from strong negative to strong positive. Afterwards, on statements participants chose extremely positive or negative points, they were interviewed again. The data were under principle component factor analysis (varimax). Categorization into factors was done by considering the output from inputting factors with eigen value 1.0 or over and total explained variate. Collected data were coded with converted points from 1 to 12 in the forced distributed cards. By coding converted points in the order of Q sample number, and put under principle component factor analysis using the QUANL PC Program.¹⁰⁻¹²

ETHICAL CONSIDERATION FOR RESEARCH SUBJECTS

Before starting the study, participants were informed that they could discontinue at any time at their discretion. All information collected for the rights and privacy of attendees was coded and stored anonymously.

To ensure the autonomy of participants, the purpose of the research, the method of research and the recording of the interview contents were explained first before the meeting.

Then, the ethical aspects of the box were considered by obtaining verbal consent, receiving consent, and making compensation commensurate with participation in the research. As a measure not to violate the privacy of participants according to the principle of bad behaviour, It was informed that the interview would be used only for research purposes, and personal situations were kept secret while ensuring anonymity. Also, It was informed that the research results would be published and the participants could stop participating in the research anytime they want. To avoid revealing the identity of the research participant, the computer file was assigned a unique password for the researcher and all information that could identify the participant was deleted.

RESULTS

STRUCTURE OF Q TYPE

To analyze subjectivities on induced abortion among nursing students, this research described characteristics of each factor focusing on statements belonging to the factor. Q responses of P sample (participants) were divided into upper questions and lower questions, and 3 factors were extracted. In the Q method, someone who has high factor weight is considered as the typical or ideal person.

To analyze the characteristics of each factor, this research gave meanings to statements whose z-scores are ± 1.00 or over and explained them among all the classified statements. The number of participants whose factor weights are 1.0 or over and who belonged to factor 1 was 7, and 5 in factor 2, and 8 in factor 3.

Participants in this research conveniently were extracted from 20 nursing college students who were found to have experienced more than one clinical practice in the third and fourth grades of the nursing department in University. The general characteristics of the research subjects are as shown in [Table 1]. The total number of people surveyed a total of 20 with the average age being 22.00 ± 1.78 . Among them, 85.0 % did not have a religion and 15 % had a religion, and the number of weeks was 23.30 ± 4.55 weeks.

Table 1: General Characteristics

Type	No	Age	Gender	Grade	Religion	Num- ber of Practices (by the week)	FWS*
Type 1	1	21	F	4	No	26	1.6278
	3	23	F	4	Catholic	24	0.6834
	4	21	F	4	Christian	26	0.7966
	5	29	F	4	Catholic	26	0.6539
	10	22	F	4	No	24	0.6354
	13	21	F	4	No	24	0.8396
Type 2	19	22	F	4	No	20	0.4319
	2	23	F	4	No	26	0.9567
	6	22	F	4	No	26	0.3794
	14	22	F	4	No	20	0.4363
	15	21	F	4	No	26	0.5061
Type 3	17	22	F	4	No	26	0.2919
	7	21	F	4	No	24	0.2867
	8	21	F	4	No	24	0.4746
	9	21	F	4	No	24	0.6042
	11	21	F	4	No	24	0.9565
	12	22	F	4	No	24	0.3148
	16	22	F	4	No	26	0.8511
	18	22	F	3	No	6	0.9472
	20	21	F	4	No	20	0.6077

*FWS: factor weight score

CHARACTERISTICS OF EACH SUBJECTIVITY FACTOR ON INDUCED ABORTION

The analysis of subjectivities on induced abortion of participants using QUANL pc program revealed 3 factors, which explained 46.09% of the total variance. factor 1 explained 30.24% of total variance; factor 2 did 8.48%; factor 3 did

7.36%. As the explanatory power of factor 1 is 30.24%, the factor can be said to be able to explain subjectivity on induced abortion the best [Table 2]. Participants belonging to a specific factor responded similarly to the statement on induced abortion.

Table 2: Eigen Value, Variance, and Cumulative Percentage

Hospitals	Type I	Type II	Type III
Eigen Value	6.3509	1.7807	1.5466
Variance(%)	0.3024	0.0848	0.0736
Cumulative(%)	0.3024	0.3872	0.4609

The correlation coefficients between the three factors are shown in [Table 3]. This shows the degree of similarity between the three types. The correlation coefficient between type 1 and type 2 is -0.0482. type 1 and type 3 is -0.6699, and -0.0038 in type 2 and type 3. Type 1 and type 3 had a relatively high correlation with other types. However, the correlation between factors in the Q method is different from the factor analysis method in the quantitative research, and since it focuses on finding the factors without presupposing the complete independence between the factors, there is no controversy over the method of factor extraction based on the high and low correlation.

Table 3: Correlations Between Factor Scores

Hospitals	Type I	Type II	Type III
Type I	1.000	-0.0482	-0.6699
Type II	-	1.000	-0.0038
Type III	-	-	1.000

ANALYSIS OF SUBJECTIVITY PER FACTOR

Subjectivity factors on induced abortion revealed by using the above method are as follows.

Negative perception factor: 7 participants belonged to factor 1. The statement to which those belonging to factor 1 expressed strong positive attitude was ‘Abortion can cause complications like excessive bleeding, infection and others’ ($Z=2.10$); ‘Abortion can make the pregnant woman vulnerable to pre-term birth, low birth weight and others’ ($Z=1.67$); ‘Negative perception on abortion can reduce abortion rate’ ($Z=1.43$) [Table 4]. The participant whose factor weight was the highest (1.6278) in factor 1 was participant No. 1, and the statements to which the participant agreed the most were No. 9 and No. 10.

The statements to which participants of factor 1 expressed the most negative responses were ‘Abortion is the best choice

to regulate childbirth' ($Z=-2.37$); 'Boy preference increases abortions' ($Z=-1.74$); 'Unreligious woman is more likely to have an abortion' ($Z=-1.61$) [Table 4]. The participant in factor 1 whose factor weight was the lowest (0.4319) was participant No. 20. The statements to which the participant agreed the most were No. 11 and No. 4.

The characteristics of factor 1 lie in worries about various complications and side-effects caused by abortion. Given that as the reason for abortion lies in unwanted pregnancy of unmarried women or minors, if the society emphasizes negative aspects of abortion, those women will become less likely to have abortions. They also viewed that, because of the law which allows induced abortion for the woman within 24 weeks of pregnancy, it is expected that the number of induced abortions will increase. They wanted a more detailed explanation on side effects or complications of abortion would be given to pregnant women. Accordingly, this research named the factor as 'the negative perception factor'.

Result perception factor: 5 participants belonged to factor 2. The statements to which those belonging to factor 2 expressed strong positive attitude were 'Increasing abortion can lower birth rate' ($Z=2.02$); 'Abortion can cause complications like excessive bleeding, infection and others' ($Z=1.57$); 'Abortion can make the pregnant woman vulnerable to pre-term birth, low birth weight and others' ($Z=1.57$) [Table 4]. The participant whose factor weight was the highest (0.9567) in factor 2 was participant No. 2, and the statements to which the participant agreed the most were No. 1 and No. 9.

The statements to which participants of factor 2 expressed the most negative responses were 'The lower education level of pregnant woman, the higher she is likely to choose abortion.' ($Z=-2.02$); 'Proper ethics on abortion can prevent abortion' ($Z=-1.57$); 'Pregnant woman who is educated about morals on abortion is less likely to have an abortion' ($Z=-1.57$) [Table 4]. The participant in factor 2 whose factor weight was the lowest (0.2919) was participant No. 18. The statements to which the participant agreed the most were No. 13 and No. 34.

The characteristics of factor 2 lie in interest in results derived from the increase of induced abortion. It considers social ef-

fects of abortion in addition to worries about complications and danger to newborn babies of factor 1. factor 2 is concerned about the situation where rapid industrialization and increase of unmarried young people increase induced abortion, further reducing childbirth. factor 2 assumes that, as social changes lead to increasing abortion, it will be difficult to reduce abortion even if young people are educated on ethics regarding abortion, complications and side effects of it. It also assumes that even if the social perception of unmarried mother is changed, it will not reduce the proportion of abortions. Accordingly, this research named factor 2 as 'result perception factor'.

Cause-finding factor: 8 participants belonged to factor 3. The statements to which those belonging to factor 3 expressed strong positive attitude were 'Abortion can cause complications like excessive bleeding, infection and others' ($Z=1.79$); 'Premarital pregnant woman is more likely to have an abortion' ($Z=1.78$); 'Failure to have contraception can increase the frequency of abortion' ($Z=1.56$) [Table 4]. The participant whose factor weight was the highest (0.9565) in factor 3 was participant No. 12, and the statements to which the participant agreed the most were No. 9 and No. 17.

The statements to which participants of factor 3 expressed the most negative responses were 'In the aspect of reproductive health, abortion is harmful' ($Z=-1.70$); 'If society gets more open, abortion will decrease' ($Z=-1.65$); 'If fetus sex is female, a pregnant woman is more likely to have an abortion' ($Z=-1.64$). The participant in factor 2 whose factor weight was the lowest (0.2867) was participant No. 8. The statements to which the participant agreed the most were No. 6 and No. 36.

Factor 3 is interested in the cause of induced abortion. It assumes that premarital conception, failure to have contraception, and unstable relationship with the partner are the causes of abortion. As abortion is chosen to regulate childbirth, we cannot only be concerned about the side effects of it, according to factor 3. It views that choice of the pregnant woman is more important than any other situation. So, this study calls factor 3 as 'cause-finding factor'.

Table 4: Q-statements on induced abortion and Z-scores per factor (N=20)

Factor	Type	Representative items of type				
		No	Representative items	Mean	Standard Deviation	Z-score
Factor1 (N=7)	Type1	9	Abortion can cause complications like excessive bleeding, infection and others.	9.14	0.9	2.10
		10	Abortion can make the pregnant woman vulnerable to pre-term birth, low birth weight and others.	8.29	0.756	1.62

Table 4: (Continued)

Factor	Type	No	Representative items of type			
			Representative items	Mean	Standard Deviation	Z-score
Factor2 (N=5)	Type2	30	The negative perception of abortion can reduce the abortion rate.	7.43	1.618	1.43
		2	An unmarried pregnant woman is more likely to have an abortion.	7.86	1.952	1.39
		25	Minors are more likely to have an abortion than adult women.	7.43	1.134	1.31
		11	Abortion is the best choice to regulate childbirth.	1.43	0.535	-2.37
		4	Boy preference increases abortions.	3.29	1.89	-1.74
		5	The unreligious woman is more likely to have an abortion.	2.71	1.38	-1.61
		15	Easier access to free abortion will decrease abortion cases.	2.43	0.787	-1.59
		21	Countries not developed in medical insurance have lower rates of abortion than those with advanced medical insurance.	3.43	1.512	-1.10
	Type3	1	Increasing abortion can lower the birth rate.	6.6	3.286	2.02
		9	Abortion can cause complications like excessive bleeding, infection and others.	6.2	2.588	1.57
		10	Abortion can make the pregnant woman vulnerable to pre-term birth, low birth weight and others.	6.4	3.578	1.57
		37	Rapid industrialization increases abortion rates.	6	2.449	1.57
	Type4	2	Minors are more likely to have an abortion than adult women.	7.8	2.168	1.12
		13	The lower the education level of a pregnant woman, the higher she is likely to choose abortion.	4.8	2.168	-2.02
		34	Proper ethics on abortion can prevent abortion.	4.4	1.817	-1.57
		31	A pregnant woman who is educated about morals on abortion is less likely to have an abortion.	2.2	1.095	-1.57
		32	Changes in the social perception of the unwed mother will decrease abortion.	4.8	3.421	-1.57
		21	Counties with good medical insurance have lower abortion rates.	3.6	0.894	-1.12

Table 4: (Continued)

Factor	Type	No	Representative items of type			
			Representative items	Mean	Standard Deviation	Z-score
Factor3 (N=8)	Type5	9	Abortion can cause complications like excessive bleeding, infection and others.	6.75	2.121	1.79
		17	A premarital pregnant woman is more likely to have an abortion.	8.38	1.408	1.78
		3	Failure to have contraception can increase the frequency of abortion.	6.5	2.07	1.56
		18	Unstable relations with partners make women choose abortion.	8.5	0.535	1.48
		11	Abortion is the best choice to regulate childbirth.	5.63	1.923	1.15
	Type6	6	In the aspect of reproductive health, abortion is harmful.	3.5	1.927	-1.70
		36	If society gets more open, abortion will decrease.	4.25	2.121	-1.65
		29	If fetus sex is female, a pregnant woman is more likely to have an abortion.	2.75	1.832	-1.64
		23	The decision to have an abortion is affected by opinions of those near a pregnant woman.	3.63	2.387	-1.42
		37	Rapid industrialization increases abortion rates.	5.13	1.885	-1.28

DISCUSSION

This research identified 3 factors, and named their characteristics as ‘negative perception factor’, ‘result perception factor’, and ‘cause-finding factor’. The characteristics of each factor are as follows.

In this research, factor 1 is ‘negative perception factor’. It assumes that as abortion can generate various complications and side-effects, abortion should be avoided. As the best choice of unwanted conception is not abortion, the society needs to reduce induced abortion through education of young people. Besides, if sexual culture and perception of induced abortion are changed, induced abortion will decrease, it assumes.

This view is consistent with the findings of Bae (1992) and Kim et al. (2000) that induced abortion has negative effects on the mental and physical health of women.^{13, 14} Complications of abortion surgery include the followings: secondary infertility, damage in uterus and uterus subsidiary organs, infection, bleeding, recurrent miscarriage, back pain and stomach pain, general prostration, and even death.¹⁴ If a woman has prior experience of induced abortion, it affects the next

pregnancy, making her suffer depression and anxiety. So, abortion affects the psychological health of the woman.¹⁵ Likewise, abortion of adolescents not only negatively affects them in physical, mental, educational, and economic senses, but harm them medically with obstetric complications, premature delivery of baby, and increase of death of the fetus and pregnant woman.¹⁶ In particular, given that the major cause of abortion for the unmarried woman is lack of knowledge on contraception and negligence in contraception, female adolescents like high school girls should be taught on induced abortion as part of teaching on contraception.

Induced abortion can seriously damage the health of the woman, and, for various reasons, many women in the world suffer from complications of it like acquired infertility, and even death.¹⁷ In Korea where induced abortion is viewed negatively, abortion surgery is often done secretly, and after-surgery treatment is neglected, causing various complications including psychological problems.¹⁸ The most realistic way to prevent induced abortion is to reduce unwanted conception. To reduce unwanted conception, it is necessary to have contraception. But young people are not well-prepared for it. Lee,¹⁹ in the analysis of the reasons why women un-

dergo induced abortion, found out that some of such women did not know why they need to avoid conception and how to do it. A study on contraception experiences of unmarried young people²⁰ found that in the first sexual intercourse in their lives they are not likely to have contraception. It is desirable to give adolescents sex education on the way to prevent induced abortion.

The second factor is 'result perception factor'. This factor is concerned about social influence, and influence to family members and others around women having induced abortion beyond concerns about side-effects and complications of abortion. It views that demographic changes will bring about increase of induced abortion and that ageing of the population, low birthrate, and change of family factors will change negative perceptions on induced abortion. It also assumes that while sex education and change of perception on induced abortion can reduce cases of abortion, but social changes will inevitably increase induced abortion.

It is generally assumed that delivery-related behaviour including induced abortion is determined by personal decision, especially by the pregnant woman herself even in Asian countries strongly influenced by familism.^{21,22} In particular, it is likely that the husband more likely decides induced abortion than my wife in a patriarchal society, and socioeconomic status of the husband can have an effect on his wife's decision on induced abortion.²³ In a society dominated by familism, childbirth is likely to be influenced by family members including husband.²³

The effect of educational level and having the job of the woman on the power of a woman to decide to have abortion varies is different in different societies. In Muslim society where patriarchal culture dominates, even a highly educated woman has low power in controlling child-birth related behaviour (induced abortion and contraception.²⁴ In such a society, such behaviour needs agreement and cooperation of her husband.²³ In such a society, the success of family plan using child delivery control techniques depends more on husband than on wife.²⁵ In such a society, educational level and the job of the husband can influence childbirth-related behaviour (induced abortion and contraception) more than that of the wife.²⁶

But, current married women who have strong individualistic equal-sex consciousness may show behaviour related to induced abortion different from that of women in previous generations who had patriarchal culture. This study focuses on such new women, Women who do not plan to have children and those who already delivered babies may be different in their socio-economic statuses even both groups belong to the same age group. Married women focusing on their lives and careers are more likely to choose not to have a baby than other women.²⁷ Similarly, the effect of socio-economic statuses of husband and wife on their decision to have induced

abortion depending on the number of children they already have. Consequently,^{28, 29} it is necessary to analyze the effect of socio-economic statuses on induced abortion.

The third factor is 'cause-finding factor'. It focuses on the cause of choosing to have an abortion. Most women in unwanted pregnancy choose induced abortion and the reasons for deciding to have abortion vary. The factor views that to reduce the number of induced abortion and to increase the birth rate, we need to pay attention to the reasons why they choose abortion.

While Kim (2002) found that residential area does not affect the decision to have induced abortion, Kim (1992) and Suh et al. (1991) found that urban women are more likely to have an abortion than rural ones.^{30,31,32} According to Kim (2002), whether women tried to avoid pregnancy when they became pregnant is not significantly related to their decision to have an abortion.³⁰ In contrast, Uygur and Erkaya (2001) found that, even in cases where women want to postpone conception or no longer want to have baby, most women do not use effective contraceptives, and, among women choosing to have an abortion for economic reasons, 77.4% of them do not use effective contraceptive methods.³³

According to Suh et al. (1991), the number of induced abortion, age, the number of children, and marriage age are significantly related to each other, and the more the number of offspring, the more women tend to have an abortion.³² The findings show the changes in the Korean society where couple-oriented family life with the small number of children has settled down, and the economic burden of child education forces young couples to have the small number of offspring.

This study, differentiated subjective perceptions of induced abortion among nursing students into 3 factors. It was found that most respondents are worried about complications and side-effects of induced abortion more than whether they agree on or oppose it. The three factors are as follows: the factor that views it negatively because of the problems it can cause; result from recognition factor that focuses on the socio-cultural effect of it; the cause-finding factor that focuses on causes for induced abortion and thinks of ways to reduce it. Such research on subjectivity can be used as basic sources in preparing for countermeasures to deal with the rapid increase of induced abortion after it became legal. Plus, this research expects that the findings of the subjectivity structure and characteristics of the different factors on induced abortion among nursing students can be used for basic data to develop educational programs on it.

But, in the sense that this study used only students from only one school and did not select respondents considering the factors affecting perceptions on induced abortion, it has limits in generalizing the findings. In the future, it is necessary

to do additional researches using the Q sample with various backgrounds.

CONCLUSION

This study was performed to make basic data to counter the rapid increase of induced abortions after the legalization of induced abortion through the analysis of subjective perceptions of nursing students, using Q methodology. The analysis resulted in 3 factors of perceiving induced abortion among students: negative perception factor, result perception factor, and cause-finding factor.

The analysis of this research will serve as basic data to adapt and apply the policy to prevent indiscreet induced abortions in the future. Identification of factors of perceiving induced abortion among nursing school students is expected to serve as sources for developing educational programs. And, this research suggests that there should be further qualitative studies identifying various elements affecting the care of nurses on women under induced abortions by choosing samples considering various elements.³⁴

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