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Illness Perceptions of Breast Cancer in Japanese Middle- and Early Old-Aged Women: Psychometric Properties of the Brief Illness Perception Questionnaire for Use in Diagnosing Breast Cancer in Japan

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Authors' contributions

This work was carried out in collaboration among all authors. Authors KA and TU designed the study and wrote the protocol. Authors KA and MT performed the statistical analysis under the supervision of authors TK and TU. Author KA wrote the first draft of the manuscript and managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Objectives: The present study was aimed at constructing the Japanese version of the Brief Illness Perception Questionnaire for breast cancer (Brief IPQ-JBC), for use with Japanese middle- and early old-aged women who had not previously undergone mammography. We also examined the psychometric properties of the translated instrument.
Methods: Patients were 824 middle- and early old-aged women living in all parts of Japan, who

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completed surveys on the Internet in January 2014. Of these, 282 had not previously undergone mammography and were included in this study, completing the Internet survey again, six months later, in July 2014.The participants were evaluated on the basis of a battery of questionnaires comprising demographic details, the tentative version of the Brief IPQ-JBC, the Japanese version of the Illness Perception Questionnaire (J-IPQ), Self-Directedness subscale from the Japanese version of the Temperament and Character Inventory-125 items, perceived breast cancer risk, and anticipated worry about breast cancer.

Results: The Brief IPQ-JBC was found to have good long-term test-retest reliability, as well as concurrent validity with the J-IPQ. The scale also showed good construct validity, based on the results of a path model using structural equation modeling, thus supporting the theoretical perspective of the common-sense model of self-regulation.

Conclusion: We have validated the Brief-JBC in a sample of Japanese middle- and earlyold-aged women and believe our results will be useful for subsequent research.

Keywords: The Japanese version of the brief illness perception questionnaire for breast cancer; the Common-Sense model of self-regulation; Japanese middle and old-aged women; psychometric properties.

1. INTRODUCTION

In Japan, as in other developed countries, breast cancer is one of the most common causes of death among women. To reduce the fatality rate attributable to breast cancer, preventive interventions based on validated research are expected. Mammography is an empirically supported method to decrease the relative risk of breast cancer mortality in Japan [1-3]. Recently, the annual rate of utilization of mammography in women aged over 40 years in Japan has increased, from 24.7% in 2007, to 30.6% in 2010, and then again to 34.2% in 2013. However, the number of breast cancer fatalities has increased, from 11,323 in 2007, to 12,455 in 2010, and then again to 13,148 in 2013 [4].

These tendencies are considered to be based on the fact that mammography usage in Japan is less than half of the 70-80% rate reported by the Organization for Economic Co-operation and Development [5] for middle- and early old-aged women living in Western countries. In Japan, further effective interventions to facilitate mammography usage are needed.

With the aim to constructing an effective intervention program to facilitate mammography usage in Japanese middle- and early old-aged women, we have in recent years explored the psychosocial factors affecting college women's intentions to use mammography [6] by applying the common-sense model of self-regulation (CSM) [7]. We have also examined middle- and early old-aged women's actual usage of mammography [8]. In our research, an individual's parallel processing of both risk perception of onset of breast cancer (cognitive processing and problem-focused coping) and anticipated worry caused by breast cancer onset (emotional processing and emotion-focused coping) were identified as the main psychosocial factors predicting one's mammography intention to use and actual usage. This is consistent with the parallel process model (PPM) [9], which has been found to be the applicable in construct an intervention program promoting Japanese middle-aged women's usage of mammography testing.

Illness perceptions are individuals' beliefs and expectations about illness or somatic symptoms and are a central concept in the CSM perspective, which is used to predict the PPM [9-14]. A number of researchers have identified that illness perceptions include five key domains, as follows: symptoms and names (identity), expected duration or expected age of onset (timeline), severity of pain and impact on life functions (consequence), infection or genetics (internal and external causes), and whether the disease was perceived as preventable curable, or controllable (controllability).Following the development of validated quantitative measures to assess individual's illness perceptions (The Illness Perception Questionnaire (IPQ) [15]; The Revised Illness Perception Questionnaire (IPQ-R) [16]; The Brief Illness Perception Questionnaire (Brief IPQ) [17]) in several studies, researchers have shown that how illness perceptions can help to explain variations in physical and psychological adjustment and illness outcomes [18-23]. Furthermore, in some researches focused on patients with myocardial infarctions, it has been reported that a brief in-hospital illness perception intervention can have

a positive effect on perceptions about one's illness, quality of life, and rates of return to work [24-26].

Illness perceptions must be taken into account in the PPM to more precisely assess the process of mammography usage in Japanese middle- and early old-aged women. However, no empirical studies have been conducted in this area of research, in a Japanese context. In terms of validated quantitative measures to assess individual's illness perception, the J-IPQ, which is based on the IPQ-R[16],is the only instrument that has been developed and had its psychometric property confirmed in Japan [27]. However, the J-IPQ has 84 items, making it difficult to use in situations when the patients are very ill, there is limited time available, or illness perceptions are measured as only part of a larger set of psychological constructs, as well as in large population-based studies and when repeated measure are taken on a frequent basis [17].Besides, Kaptain et al. [28] examined the differences between illness perceptions in Japanese and Dutch women with breast cancer and also considered the applicability of the Brief IPQ [17] with Japanese women. The Brief IPQ is very short and simple, well-validated measure of illness perceptions, in which a single-item scale approach is used to assess perceptions on continuous linear scale [17]. In their study [28], it was reported that although the Brief IPQ has a feasibility of a cross-cultural study, a methodological issue in the Brief IPQ pertains to the item that aims at assessing "timeline." In view of the fact that their study used smaller samples of 21 Japanese and 22 Dutch women with breast cancer, it seems difficult to confirm whether the Brief IPQ has an acceptable level of the psychometric properties in Japanese women.

In this study, we aimed to construct the Japanese version of the Brief IPQ specific to breast cancer. We also examined the constructed scale's psychometric properties using larger samples of Japanese middle- and early old-aged woman who had not undergone mammography prior to this study. This scale will contribute to overcoming certain barriers to first usage of mammography in middle-aged women.

2. METHODS

2.1 Participants and Procedures

We surveyed 824 middle- and early old-aged women living in all parts of Japan. The women, who were aged 40-69years, were contacted through a Japanese on-line research company, Macromill, in January 2014. All the women completed the consent form and our first survey (T1). Because our objective was to eventually develop an effective intervention promoting mammography usage in middle- and early old-aged Japanese women, 282 participants who had not previously undergone mammography were used for this study. The average age of the 282 women was 49 years (*SD* = 7.5, *range*= 40-68).

Six months later (T2), we administered the second survey to 194 women to examine the long-term test-retest reliability of the scale. The average age of the 194 women was 49 years (*SD* = 7.6, *range* = 40-68).

Ethical approval was obtained from Ethics Committee of Kyushu Lutheran Collage at Kumamoto Japan, because the first author (KA) worked at this college when we planned this series of research (2010).

2.2 Measures

2.2.1 Demographics

We designed a questionnaire to collect details of participants' age, residential area, employment status, marital status, cancer experience, past mammography usage, and family cancer history (first-degree relatives with breast/ovarian cancer).

2.2.2 Illness perception

The Japanese translation [29] of the Brief IPQ [17] was used to assess participants' illness perceptions. It comprises nine items used to assess cognitive and emotional perceptions, including consequence, timeline, personal and treatment control, identity, coherence, concern, emotions, and cause, in the same way as the original Brief IPQ. All items except cause are scored on an 11-point Likert-type scale (e.g., consequence: 0 = no affect at all to 10 = severely affects my life). A total score of eight items represents the degree to which the illness is perceived as threatening or benign by the participants. High scores indicate that participants perceive their illness as more threatening. Participants are also asked to list the three most important causal factors in their illness. For the purposes of the current study, we replaced the word "illness" with "breast cancer" in each item of the Japanese version of the Brief

IPQ, to form the breast cancer-specific Brief IPQ-JBC.

Before starting this survey, we contacted Dr. Broadbent, the creator of the Brief IPQ, and Dr. Tamagawa, the translator of the Brief IPQ into Japanese, and secured their permission to use this scale in our research.

To assess concurrent validity, the J-IPQ [27] was used. The J-IPQ comprises three sections, as follows: the 14-item identity scale (e.g., pain, breathlessness), the 18-item causal scale (e.g., emotional states, smoking), and the 52-item scale to assess the remaining dimensions, including emotion representations, acute and chronic timeline, consequence, cyclical timeline, personal and treatment control and coherence(e.g., "I get depressed when I think about my illness," "My illness has major consequences on my life"). Each item of the identity scale is rated using a yes/no binary, while causal and remaining dimensions scale items are rated on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). As with the Brief IPQ-JBC, we replaced the word "illness" with "breast cancer" in each item of the remaining dimensions scale. The Cronbach's alpha coefficients for the identity scale and the remaining dimensions scale in our study were as follows: the identity scale = 0.88, emotion representations dimension = 0.86, chronic timeline dimension = 0.89, acute timeline dimension = 0.81, consequence dimension = 0.75, cyclical timeline dimension = 0.55, personal control dimension = 0.70, treatment control dimension = 0.74, and coherence = 0.62.

2.2.3 Self-efficacy

The self-directedness (SD) subscale from the Japanese version of the Temperament and Character Inventory-125 items (TCI-125) [30] was used to assess participants' self-efficacy. The Japanese version of TCI-125, based on the original TCI [31], is a well-validated measure that is used to assess the following two aspects of personality: temperament and character. Temperament is assessed along four dimensions, as follows: novelty seeking, harm avoidance, reward dependence, and persistence. Character is assessed along three dimensions, as follows: self-directedness, cooperativeness, and self-transcendence.

Responses to 25-item (e.g., "I think my natural responses now are usually consistent with my principles and long-term goals," "I usually look at a difficult situation as a challenge or opportunity") SD subscale are rated on a 4-point Likert-type scale ranging from 1 (very unlikely) to 4 (very likely).The Cronbach's alpha coefficient in our study sample was0.90.

2.2.4 Risk perceptions and cancer worry

Perceived risk and worry about breast cancer were each assessed with one item extracted from the items originally developed by Cameron & Diefenbach [32]. These items are as follows: perceived risk ("How likely do you think it is that, at some point in your life, you will get breast cancer?") and cancer worry ("To what extent are you worried about getting breast cancer?"). Each item is rated on a 5-point Likert-type scale ranging from 1 (not at all) to 5 (almost certain or extreme).

2.3 Statistical Analysis

Five types of data analysis were conducted to examine the psychometric properties of the Brief IPQ-JBC in Japan, using IBM SPSS Statistics 22 and Amos 22. First, descriptive data of participants' demographics was calculated. Second, to examine the long term test-retest reliability, Pearson correlation coefficients were calculated in participants who answered the survey at both T1 and T2. Third, to examine the factor structure, exploratory factor analysis using maximum likelihood method extraction and a promax rotation was conducted in participants at T1. Forth, to examine the concurrent validity, Pearson correlation coefficients between the Brief IPQ-JBC and the J-IPQ for breast cancer were calculated in participants at T1. Fifth, to examine the construct validity, intercorrelation coefficients between the Brief IPQ-JBC items were calculated and a path analysis setting perceived risk and cancer worry as outcome variables using structural equation modeling (SEM) was conducted in participants at T1.

3. RESULTS

3.1 Demographics

In terms of demographics at T1 survey, 34 (12.0%) women were from the Hokkaido or Tohoku areas, 96 (34.0%) from the Kanto area, 49 (19.1%) from the Chubu area, 54 (19.1%) from the Kinki area, 27 (9.5%) from the Chugoku or Shikoku areas, and 22 (7.8%) from the Kyushu area. In all, 25.5% were working fulltime,

79.1% were married, 10.3% of whom were divorced and 2.1%of whom were widowed. None had previously been diagnosed with breast and/or ovarian cancer, and 7.4% had family (first-degree relative) cancer histories of breast and/or ovarian cancer. The demographics of participants who answered the survey at T2 did not differ from that of the original sample of 282 women (see Table 1).

3.2 Reliability

The long term (6 months) test-retest reliability of the Brief IPQ-JBC was assessed in 194 participants, who answered the survey at bothT1 and T2. Pearson correlation coefficients demonstrate that the items have a good level of reliability, as follows: consequence (r = 0.47, p< 0.001), timeline (r = 0.52, p< 0.001), personal control (r = 0.48, p< 0.001), treatment control (r = 0.50, p< 0.001), identity (r = 0.35, p< 0.001), coherence(r = 0.61, p< 0.001), and emotions (r = 0.55, p< 0.001). In addition, Pearson correlation coefficient of a total score of eight items between two surveys was equal to 0.65 (p< 0.001).

The Cronbach's alpha of the total score for the 194 participants at T1 was 0.70, while at T2, it was 0.65.

3.3 Factor Structure of Brief IPQ-JBC

To examine the factor structure of the Brief IPQ-JBC, we conducted exploratory factor analysis using maximum likelihood method extraction and a promax rotation to identify common factors that account for the majority of variance in all 282 participants. Three factors were identified, accounting for 62.7% of the total variance.

Factor 1, emotion estimate, accounted for the largest percentage of variance among the three factors and included two items, as follows: emotions (factor loading = 0.93) and concern (0.52). Factor 2, likelihood estimate, included three items, as follows: timeline (0.67), identity (0.54) and consequence (0.50). Factor 3, severity estimate, included three items, as follows: personal control (0.57), treatment control (0.52) and coherence (0.41).

Table 1. Demographics of the participants

Age			**T1 (n = 282)**		**T2 (n = 194)**	
			Mean (SD) 49 (7.5) Number	**Range 40-68 %**	**Mean (SD) 49 (7.6) Number**	**Range 40-68 %**
Residential area	Hokkaido		15	5.3	5	2.6
	Tohoku		19	6.7	16	8.2
	Kanto		96	34.0	69	35.6
	Chubu		49	17.4	33	17.0
	Kinki		54	19.1	39	20.1
	Chugoku		17	6.0	10	5.2
	Shikoku		10	3.5	6	3.1
	Kyushu		22	7.8	16	8.2
Employment status	full-time		72	25.5	48	24.7
	part-time		65	23.0	42	21.6
	homemaker		145	51.4	104	53.6
Marital status	married	continued	194	68.8	132	68.0
		divorced	29	10.3	18	9.3
		bereaved	6	2.1	4	2.1
	not married		53	18.8	40	20.6
Cancer experience	yes		0	0.0	0	0.0
	no		282	100.0	194	100.0
Family cancer history	yes		21	7.4	17	8.8
	no		261	92.6	177	91.2

SD standard deviation

3.4 Concurrent Validity

To assess the concurrent validity of the Brief IPQ-JBC (except the cause item), we calculated the Pearson correlation coefficients with the J-IPQ for breast cancer (see Table 2). In Table 2, it can be seen that there were correlations between each item of the Brief IPQ-JBC and each corresponding subscale of the J-IPQ for breast cancer.

However, the correlation of personal control between the two measures was comparatively low, which is also true of the original Brief IPQ. Based on previous research [17], we calculated the Pearson correlation coefficient between the Brief IPQ-JBC personal control item and the SD subscale from the Japanese version of TCI-125.As we expected, there was a significant correlation (r = 0.26, p< 0.001) between the Brief IPQ-JBC personal control item and SD.

To establish the validity of the cause item, we conducted several analysis, as follows. First, exploratory factor analysis (maximum likelihood method extraction and a promax rotation) was carried out to examine the factor structure of the 18-item causal scale (J-IPQ for breast cancer), and the following five factors accounting for 67% of the variance were identified: stress and worry (e.g., feeling down, anxious), environment (e.g., pollution, virus), substance use(e.g., smoking, alcohol), lifestyle (e.g., diet or eating habits, physical exercise), and body system (e.g., heredity, immunity).These five factors were determined to be the causal components. Second, we checked that the participants' causal answers on the Brief IPQ-JBC were consistent with these five causal components. Third, we calculated the Pearson correlation coefficients between the presence (a dummy variable score as presence = 1, absence = 0) of causal answers on the Brief IPQ-JBC and scores for the five components of the J-IPQ causal scale (see Table 3). As shown in Table 3, each Brief IPQ-JBC cause item answer was significantly correlated with a correspondent component score on the J-IPQ cause scale.

3.5 Construct Validity

Intercorrelation coefficients were calculated between the Brief IPQ-JBC items, perceived risk and cancer worry using the sample of 282 middle- and early old-aged Japanese women who had not experienced mammography prior to the T1 survey.

In the Brief IPQ-JBC items, significant correlations with perceived risk were found for concern (r = 0.27, p< 0.001), consequence (r = 0.20, p< 0.01), timeline (r = 0.22, p< 0.001), and identity (r = 0.17, p< 0.01). Further, significant correlations with cancer worry were found for concern (r = 0.35, p< 0.001), emotions (r = 0.61, p< 0.001), consequence (r = 0.46, p< 0.001), timeline (r = 0.30, p< 0.001), identity (r = 0.16, p< 0.01), personal control (r = -0.36, p< 0.001), and coherence (r = -0.23, p< 0.001). Family cancer history was only correlated with perceived risk (r = 0.22, p< 0.001).

In the self-regulatory perspective, it is predicted that specific linkage exist between illness perceptions, risk perception and cancer worry [17]. We constructed a path model, setting perceived risk and cancer worry as outcome variables, and calculated the fit indices of this model using SEM based on data collected from the T1 sample. The path model yielded acceptable fit indices, as follows: goodness-of-fit index = 0.959, adjusted goodness-of-fit index = 0.926, comparative fit index = 0.949, and root mean square error of approximation = 0.053 (see Fig. 1). In this model, although perceived risk was mainly predicted by family cancer history, likelihood estimate of illness perceptions were also significant predictor to perceived risk. Cancer worry was strongly predicted by the emotion estimate and mildly predicted by the estimated severity of illness perceptions.

4. DISCUSSION

This study aimed at examining the psychometric properties of the Brief IPQ [17], adapted to be specific to breast cancer in Japanese middle- and early old-aged women (Brief IPQ-JBC). We found that the Brief IPQ-JBC was appropriate for use with Japanese middle- and early old-aged women, and the factor structure, reliability and validity were confirmed.

4.1 Reliability

The results indicate that, as we expected, the Brief IPQ-JBC has good long-term test-retest reliability in participants who had never had breast and/or ovarian cancer or undergone mammography before this survey. The Cronbach's alpha (= 0.70) of the total score, with the exception of the cause item, indicates that the scale's internal consistency is at an acceptable level [33].

Table 2. Pearson correlations between the Japanese version of Brief IPQ for breast cancer and J-IPQ for breast cancer

			Japanese version of brief IPQ for breast cancer													
J-IPQ for breast cancer	***Mean***	***SD***	**Identity**		**Timeline**		**Consequences**		**Personal control**		**Treatment control**		**Concern**		**Emotions**		**Coherence**	
Identity	6.04	3.97	0.44	***	0.19	**	0.22	***	-0.03		-0.02		0.05	*	0.14	*	-0.07	
Chronic timeline	10.08	2.36	0.20	**	0.45	***	0.34	***	-0.35	***	-0.11	*	0.22	***	0.29	***	-0.12	*
Acute timeline	14.13	2.57	0.17	**	0.40	***	0.35	***	-0.39	***	-0.12	*	0.16	**	0.29	***	-0.14	*
Timeline cyclical	15.21	2.49	0.11		0.17	**	0.19	**	-0.04		-0.04		0.27	***	0.11	*	-0.12	*
Consequences	23.34	3.80	0.27	***	0.28	***	0.46	***	-0.25	***	-0.01		0.35	***	0.42	***	-0.06	
Personal control	14.47	2.68	-0.05		-0.15	*	-0.09		0.22	***	0.01		-0.03		-0.10		0.14	*
Treatment control	12.73	2.18	0.02		-0.15	*	0.07		0.16	**	0.46	***	-0.04		0.01		0.07	
Emotion representation	22.33	5.03	0.19	**	0.14	*	0.37	***	-0.25	***	0.02		0.49	***	0.47	***	-0.01	
Illness coherence	8.54	1.65	-0.06		-0.11		-0.15	**	0.12	*	0.09		-0.05		-0.15	*	0.58	***
mean			5.80		7.10		7.96		3.91		6.35		6.50		7.52		4.45	
SD			1.89		1.84		1.95		2.11		1.81		2.32		2.22		1.93	

IPQ Illness Perception Questionnaire, SD standard deviation
**p<0.05; **p<0.01; ***p<0.001*

Table 3. Pearson correlations between the Brief IPQ-JBC causal item and J-IPQ for breast cancer causal scale

			Brief IPQ-JBC causal response									
J-IPQ for breast cancer cause scale	***Mean***	***SD***	**Stress and worry**		**Environment**		**Substance use**		**Lifestyle**		**Body system**	
Stress and worry	19.78	4.34	0.33	***	0.02		0.07		0.20	*	-0.12	*
Environment	8.79	1.98	0.03		0.13	*	0.04		-0.04		-0.04	
Substance use	6.66	1.64	0.11		-0.06		0.30	***	0.09		-0.02	
Lifestyle	9.69	1.64	0.08		0.09		0.08		0.21	***	0.02	
Body system	8.00	1.21	0.09		-0.04		0.09		0.13	*	0.20	***
number			68		10		40		131		161	
%			24.1		3.5		14.2		46.5		57.1	

Brief IPQ-JBC Japanese version of the Brief Illness Perception Questionnaire for breast cancer, J-IPQ Japanese version of Illness Perception Questionnaire, SD standard deviation
**p<0.05; **p<0.01; ***p<0.001*

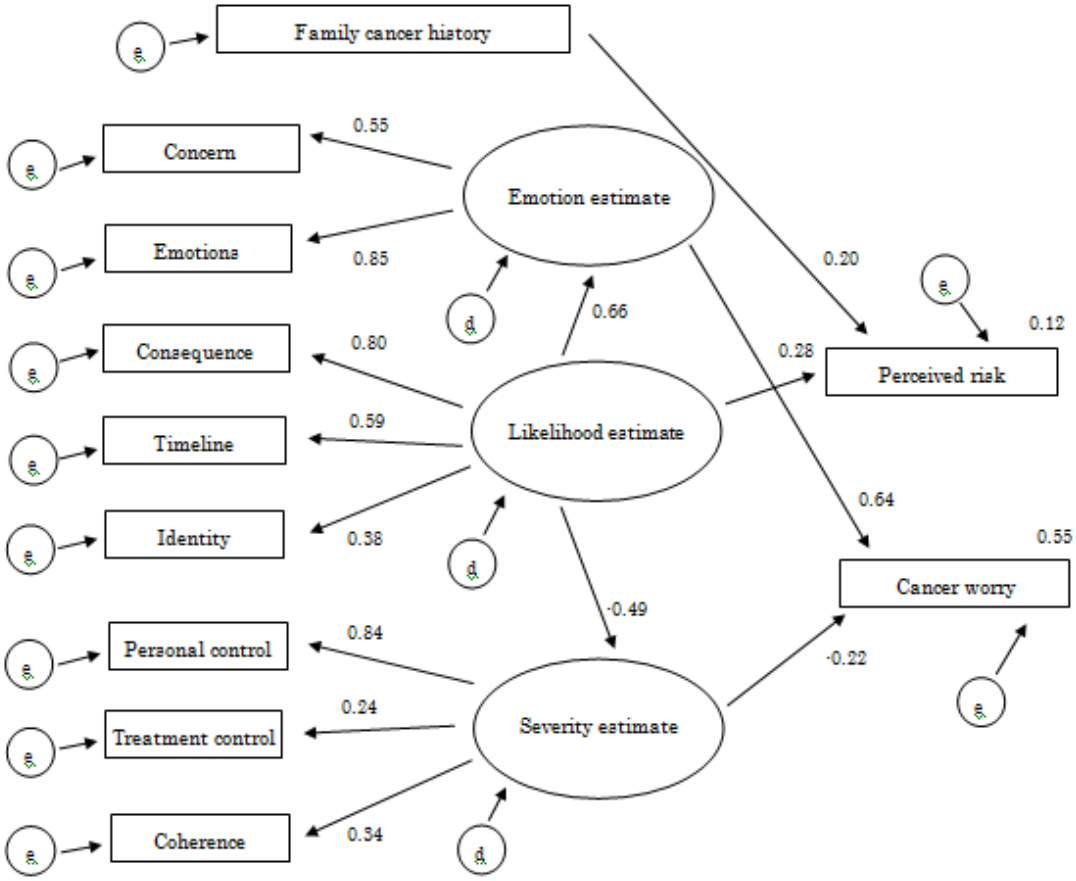

Fig. 1. Observed path model between illness perceptions, family cancer history, perceived risk, and cancer worry

All standardized structural coefficients are significant (ps < 0.05), GFI = 0.959, AGFI = 0.926, CFI = 0.949, RMSEA = 0.053

4.2 Factor Structure

Of three factors extracted by exploratory factor analysis, two (likelihood estimate and severity estimate) are almost consistent with the illness representations subcategories noted by Cameron [17], whereby the likelihood estimate includes identity, cause and timeline, and the severity estimate includes consequence and controllability. However, in our results, consequence is included in the likelihood estimate factor. As noted by Weinman et al. [15], consequence reflects the individual's belief about not only the illness severity, but also the illness's likely impact on their physical, social, and psychological functioning. In the Brief IPQ-JBC, consequence item is "How much does your breast cancer affect your life?" This seems to concern the individual's belief about the likelihood the illness (breast cancer) will impact on her future. For that reason, consequence might be included in the likelihood estimate factor.

Moss-Morris et al. [16] added the emotion estimate factor to the IPQ-R because in Leventhal's self-regulation model it is proposed that the individual develops parallel cognitive and emotional representations in response to illness and other health threats [34]. Furthermore, emotion representations was divided into two items (emotions and concern) on the original Brief IPQ [17]. It seems clear that emotion estimate factor in this study reflects these previous researches.

Based on the above, we consider that the factor structure of the Brief IPQ-JBC is appropriate for use in assessment of individual's illness perceptions about breast cancer.

4.3 Concurrent and Construct Validity

The results indicate that there are moderate to strong correlations between the Brief IPQ-JBC and the J-IPQ for use in a breast cancer context, on all the equivalent dimensions except for personal control, where the correlation is weak. These results are in line with those of Broadbent et al. [17], who reported that the validity of the Brief IPQ personal control item was supported by the result that there was a significant correlation with self-efficacy. SD as used in this study is considered as the ability of an individual to control, regulate, and adapt behavior to fit the situation, in accord with individually chosen goals and values [31]. The significant correlation between Brief IPQ-JBC personal control item and SD score also supports the validity of the Brief IPQ-JBC personal control item. Further, causal responses on the Brief IPQ-JBC are associated with the corresponding causal component scores of the J-IPQ for breast cancer. This is also in line with the reports of Broadbent et al. [17].

The Brief IPQ-JBC was found in our study to have good construct validity. As shown in Fig. 1, the results of path modeling using SEM supports theoretical perspective of CSM that risk perception and disease-related worry are influenced by illness perceptions [13]. Further, several empirical studies supporting this theory have been conducted, focusing on patients with breast cancer [19,22], venous thrombosis [35], and succinate dehydrogenase mutation [36].

5. CONCLUSION

The Brief IPQ-JBC is a well-validated and reliable measure to assess the breast cancer perceptions in Japanese middle- and early old-aged women who have not previously experienced mammography. Our final objective is to eventually develop an effective intervention promoting mammography usage in middle- and early old-aged Japanese women who have not undergone mammography for breast cancer susceptibility. We believe our results will be useful for subsequent research. However, the Brief IPQ-JBC uses a single-item to assess perceptions on a continuous linear scale. When researchers want to perform a more detailed analysis of the patient's illness perceptions, the J-IPQ may offer advantages due to the larger range of the subscales.

CONSENT

All authors declare that consent for their inclusion in this report was obtained from the participants through on line survey.

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ETHICAL APPROVAL

Not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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