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[**Short Communication**]

Self-Assessment of "Team-Based Oral Care" in Psychiatric Nurses

Fuyuko NAKASHIMA, Keiko KUBOTA, Kimie MACHISHIMA

The purpose of this study was to characterize how psychiatric nurses (PNs) assessed their interprofessional collaboration in oral care (ICOC). A scale developed by researchers was used to investigate collaboration levels with physicians, dentists, dental hygienists, and occupational therapists as other specialists. Data consisted of valid responses from 121 PNs were used to validate the reliability and validity of the scale and analysis was performed on PN's self-assessment of ICOC.

Most PNs made a self-assessment that they were aware of the importance of oral care but the current practice was inadequate. Their self-assessment of ICOC revealed that the development of ties was poor with physicians, dentists, occupational therapists, and dental hygienists in 27.3%, 43.0%, 57.0% and 77.0% of PNs, respectively. PNs usually worked together with, in a descending order of frequency, physicians, dentists, occupational therapists, and dental hygienists to provide oral care. In ICOC, once having built a cooperative relation with one of the professions, PNs tended to expand collaboration with other professions. Our study results highlighted the need to promote multidisciplinary relationships between PNs and other specialists for better oral care.

Key words : oral care, other medical specialists, psychiatric nurses, self-assessment

Introduction

The goal of oral care is not only the prevention of oral disease such as caries or periodontal disease.[1] Oral care has profound effects on systemic health, extending from the prevention of aspiration pneumonia[2] and endocarditis,[3] brain activation,[4] to communication and social life.[1] Therefore, oral care is an essential part of human life. In Japan, the Act concerning the Promotion of Dental and Oral Health was issued in 2011 to support the importance of oral health for a healthy and quality life.[5] The Ministry of Health, Labour, and Welfare[6] (MHLW) is promoting team medicine to improve healthcare quality, and advocating the need of medicine-dentistry collaboration in oral care. The MHLW suggested three other professions as the members of oral care team besides physicians and nurses : dentists and dental hygienists who can provide specialized oral care and occupational therapists who can take care of rehabilitation in daily activities. Specialized oral care includes advice on oral cleaning, professional cleaning of the tooth surface, and rehabilitation of oral functions by dentists and dental hygienists.[7]

While the significance of oral care is increasingly emphasized, people with mental disorders may find it difficult to care for their oral cavity due to psychiatric symptoms and social dysfunctions. These patients are also likely to have oral health problems caused by adverse reactions to antipsychotic treatment.[8] PNs should provide effective oral care to such patients[6] in ICOC, i.e. in collaboration with dentists and dental hygienists who are specialized in oral care as well as with psychiatrists who treat their psychiatric disease. In psychiatry, occupational therapists are responsible for training daily living skills including oral care.[9] Consequently, it is possible to improve oral care quality if PNs work together with other specialists, physicians, dentists, dental hygienists, and occupational therapists in oral care practice. To the best of our knowledge, no previous study has investigated the actual situation of

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ICOC in those who are hospitalized for the treatment of mental disorders (hereafter called patients). The present study investigated PN's self-assessment about ICOC, aiming to explore implications for strategies to enable high-quality ICOC. The objective was to characterize PN's self-assessment of ICOC. We included physicians, dentists, dental hygienists and occupational therapists as other types of professions. Oral care referred to herein is defined based on the MHLW Health Word Dictionary[10] as a "term meaning both organic oral care to keep the mouth clean and functional oral care to maintain and restore oral functions."

Methods

1. Study design (**Fig. 1**)

The study was designed as follows. PNs provided oral care to patients with the importance of care in mind, based on the knowledge of effective oral care and how to work with other professions (physicians, dentists, dental hygienists, occupational therapists, etc.). PNs retrospectively reviewed the oral care performed and assessed performance of ICOC and effects of oral care. This self-assessment was used to develop strategies to improve oral care quality. The study investigated PNs for their self-assessment about ICOC, by which insights into strategies to enable quality ICOC were sought.

2. Subjects

One hundred-ninety PNs were included.

3. Data collection

The purpose, significance, methods, and ethical considerations of this study were explained to the directors of nursing in psychiatric hospitals where subjects were working to obtain approval for the study. These directors of nursing allowed us to distribute explanatory documents for recruitment and questionnaires to subjects. In addition to the study purpose, significance, methods, and ethical considerations above, subjects were informed in writing that submission of the questionnaire would mean consent to participation in this study. We asked subjects to tightly seal completed questionnaires in a personal envelope and drop them in the collection box placed in the hospital. The study was conducted from March 9 to 31, 2016.

4. Questionnaire items

Questionnaire items about oral care in practice were

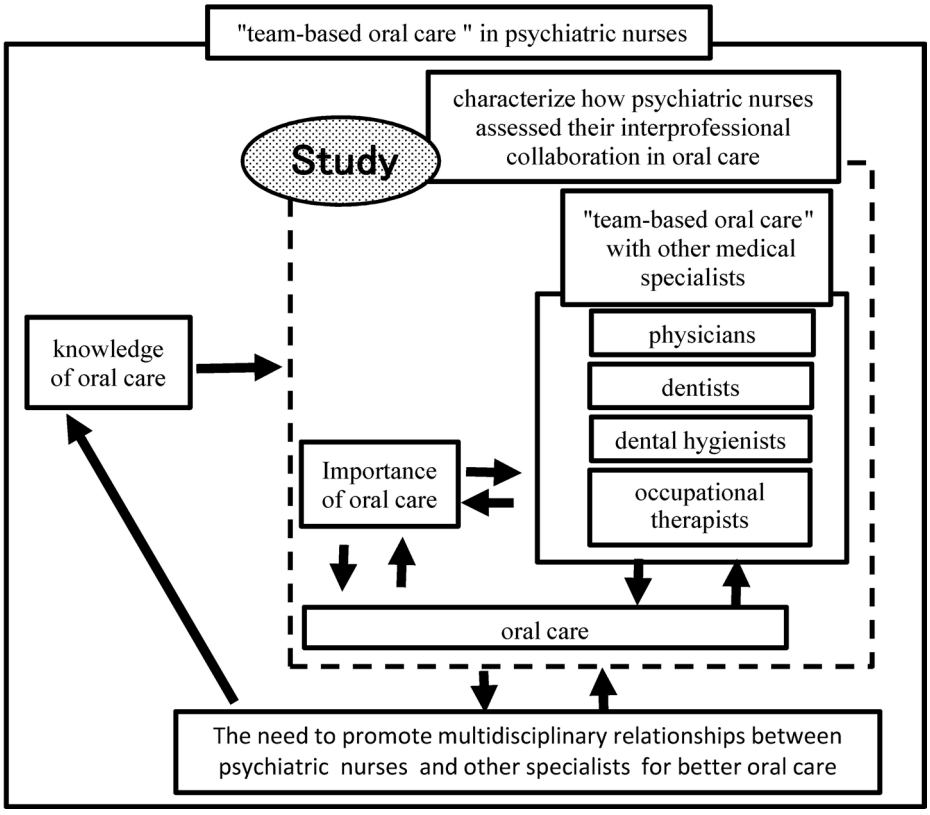

Figure 1 Research design

developed by the researchers according to previous studies[6, 11, 12] and supervised by dentists and dental hygienists. The questions were mainly composed of basic attribution, importance of oral care, self-assessment of provided oral care, and self-assessment of ICOC. As one question, the importance of oral care was evaluated in a one-item four-point scale (Very important–Not so important). As one question, self-assessment of provided oral care was evaluated in a one-item four-point scale (Appropriate–Poor). Self-assessment of ICOC was reported in a scale (hereafter ICOC scale) and evaluated in a 15-item five-point scale (four points for Very often and–0 points for Never). Higher scores reflected better collaboration with a total score of 0 to 60. The ICOC scale included the following question items:

1. Do you collect oral care information requested by patients or their family members from other specialists sometimes?
2. Did you tell other specialists about the oral care requested by patients or their family members?
3. Did you collect information from other specialists to know how the patient or the family members understood oral care?
4. Did you tell other specialists how the patient or the family members understood oral care?
5. Did you tell other specialists about your prospects of oral changes (for example, loss of swallowing function) that the patient could experience in the future from your expert's point of view?
6. Did you discuss with other specialists to form a consensus on the oral care policy or future plans?
7. Did you exchange opinions with other specialists about your oral care policy or future plans?
8. Did you propose to other specialists changing your oral care plan according to the disease progression?
9. Did you collect detailed information on oral care provided by other specialists?
10. Do you have opportunities to ask other specialists any questions about oral care?
11. Did you tell other specialists about the oral care that you do particularly?
12. Did you have regular opportunities to meet other specialists (study group, conference, etc.)?
13. Did you express your appreciation or communicate a positive evaluation to other specialists for their oral care practice?
14. Did you organize a system to quickly communicate among different specialists when an oral abnormality developed?
15. Did you have an information sharing system (information exchange tool) among different specialists about oral care?

The ICOC scale repeatedly asked subjects these items which replaced the words "other specialists" with each profession of physicians, dentists, dental hygienists, and occupational therapists. Thus, subjects had to answer similar questions four times throughout the questionnaire. In consequence, ICOC was examined for physicians, dentists, dental hygienists, and occupational therapists with a 15-item, 0–60 points scale, respectively (**Table 1**).

5. Data analysis

Statistical analysis software SPSS Version 23.0J for Windows was used for analysis of the obtained data. The lack of normality was confirmed by Kolmogorov-Smirnov test and a non-parametric test was performed. Data were presented in means and standard deviations.

6. Ethical considerations

The directors of nursing in subject hospitals received written and verbal explanations on the study and agreed to cooperate. Subjects were informed of the study purpose, methods, voluntary nature of the questionnaire, protection of privacy, and maintenance of anonymity in writing. Subjects were also explained that no disadvantages would result from the study, study results would be published in academic meetings but individuals would not be identified, and submission of the questionnaire would be presumed as consent to the study. Questionnaires were completed anonymously and retrieved from the collection box. The study was conducted with the approval of the Ethics Committees of Fukuoka Dental College and Fukuoka College of Health Sciences (approval No. 290).

Results

1. Subject overview

Responses were collected from 158 PNs (collection rate 83.2%). Valid responses were 121 (valid response rate 76.6%), including 49 men and 72 women with the median (range) age of 40.0 (23–59) years and median

(range) nursing experience of 13.0 (1–38) years.

2. Importance of oral care (**Table** 2).

As shown in **Table 1**, a total of 118 PNs (94.7%) perceived the importance of oral care, of which 62 (51.2%) answered "Very important," 56 (46.3%) "Important," and 3 (2.5%) "Not so important."

3. Self-assessment of provided oral care

Among a total of 24 (19.8%) PNs who felt sure of their oral care, one (0.8%) evaluated themselves as Appropriate and 23 (19.0%) as Adequate, while a total of 97 (80.2%) PNs evaluated themselves as less than adequate, of which 76 (62.8%) and 21 (17.4%) answered Inadequate and Poor, respectively.

4. Reliability and validity of the ICOC scale

The reliability of the ICOC scale was validated with the Cronbach's α coefficient of 0.9 for physicians, 0.9 for dentists, 0.9 for dental hygienists, and 0.9 for occupational therapists. The internal validity was reviewed by three experts of nursing under the supervision of dentists and dental hygienists. Verification of the

Table 1 ICOC scale

question items
1. Do you collect oral care information requested by patients or their family members from other specialists sometimes?
2. Did you tell other specialists about the oral care requested by patients or their family members?
3. Did you collect information from other specialists to know how the patient or the family members understood oral care?
4. Did you tell other specialists how the patient or the family members understood oral care?
5. Did you tell other specialists about your prospects of oral changes (for example, loss of swallowing function) that the patient could experience in the future from your expert's point of view?
6. Did you discuss with other specialists to form a consensus on the oral care policy or future plans?
7. Did you exchange opinions with other specialists about your oral care policy or future plans?
8. Did you propose to other specialists changing your oral care plan according to the disease progression?
9. Did you collect detailed information on oral care provided by other specialists?
10. Do you have opportunities to ask other specialists any questions about oral care?
11. Did you tell other specialists about the oral care that you do particularly?
12. Did you have regular opportunities to meet other specialists (study group, conference, etc.)?
13. Did you express your appreciation or communicate a positive evaluation to other specialists for their oral care practice?
14. Did you organize a system to quickly communicate among different specialists when an oral abnormality developed?
15. Did you have an information sharing system (information exchange tool) among different specialists about oral care?

Table 2 "Importance of oral care" and "Self assessment of oral care" n = 121

Variable		n	%	n	%
Importance of oral care	Very importance	62	51.2	118	94.7
	Importance	56	46.3		
	Not importance	3	2.5	—	—
Self assessment of oral care	Done enough	1	0.8	24	19.8
	Done	23	19.0		
	Slightly inadequate	76	62.8	97	80.2
	inadequate	21	17.4		

validity of the scale was inadequate. The future task is to verify the validity of the scale.

5. PNs' Self-assessment of ICOC

Among PNs who reported no collaborative relationship with a total of 0 points on the scale, the least was ICOC with physicians reported by 33 (27.3%) PNs. Similarly, 52 (43.0%), 69 (57.0%), and 94 (77.7%) PNs had ICOC failure with, in ascending order, dentists, occupational therapists, and dental hygienists, respectively. The median (range) total scores of ICOC scale were, in descending order, 8.0 (0.0–51.0) with physicians, 4.0 (0–52.0) with dentists, 0.0 (0.0–60.0) with occupational therapists, and 0.0 (0.0–42.0) with dental hygienists. Significant differences were observed among these professions; physicians scored higher than occupational therapists ($P<0.01$) and dental hygienists ($P<0.01$), and dentists scored higher than occupational therapists ($P<0.05$) and dental hygienists ($P<0.01$). There was no significant difference between physicians and dentists or between occupational therapists and dental hygienists (**Table 3**). A correlation was observed in the total score of ICOC scale with physicians, dentists, dental hygienists, and occupational therapists ($P<0.01$) (**Table 4**).

The outcome of the ICOC scale is shown by question item in **Table 5**. The number (percentage) of PNs who reported ICOC failure with physicians ranged from 54 (44.6%) to 80 (66.1%) across the questionnaire items. Lack of ICOC with physicians was reported most frequently in Question 13 (Did you express your appreciation or communicate a positive evaluation to other specialists for their oral care practice?). The number (percentage) of PNs who reported ICOC failure with dentists ranged from 60 (49.6%) to 96 (79.3%) across the questionnaire items. Lack of ICOC with dentists was reported most frequently in Question 12 (Did you have regular opportunities to meet other specialists (study group, conference, etc.)?). The number (%) of PNs who reported ICOC failure with dental hygienists ranged from 99 (81.8%) to 106 (87.6%). Lack of ICOC with dental hygienists was reported most frequently in Question 12 (Did you have regular opportunities to meet other specialists (study group, conference, etc.)) at 106 (87.6%). The number (%) of PNs who reported ICOC failure with occupational therapists ranged from 78 (64.5%) to

Table 3 Self-assessment of "team-based oral care" in psychiatric nurses n = 121

	No collaboration (0点)		Median	Range
	n	%		
physicians	33	27.3	8.0	0.0 — 51.0
dentists	52	43.0	4.0	0.0 — 52.0
occupational therapists	69	57.0	0.0	0.0 — 60.0
dental hygienists	94	77.7	0.0	0.0 — 42.0

Scheffe $^{*}p<0.05$ $^{**}p<0.01$

Table 4 Correlation of other occupational collaborative scales score n = 121

	physicians	dentists	occupational therapists	dental hygienists
physicians	—	.6**	.6**	.3**
dentists	—	—	.5**	.5**
occupational therapists	—	—	—	.3**
dental hygienists	—	—	—	—

Spearman's rank correlation coefficient $^{**}p<0.01$

Table 5 No collaboration in oral care n = 121

	No collaboration Number of people (%)			
question items	physicians	dentists	dental hygienists	occupational therapists
1	60 (49.6)	60 (49.6)	99 (81.8)	93 (76.9)
2	58 (47.9)	70 (57.9)	99 (81.8)	101 (83.5)
3	71 (58.7)	81 (66.9)	104 (86.0)	99 (81.8)
4	65 (53.7)	74 (61.2)	103 (85.1)	97 (80.2)
5	54 (44.6)	81 (66.9)	104 (86.0)	94 (77.7)
6	64 (52.9)	80 (66.1)	104 (86.0)	98 (81.0)
7	62 (51.2)	81 (66.9)	102 (84.3)	98 (81.0)
8	72 (59.5)	86 (71.1)	105 (86.8)	101 (83.5)
9	74 (61.2)	72 (59.5)	103 (85.1)	96 (79.3)
10	71 (58.7)	73 (60.3)	104 (86.0)	92 (76.0)
11	71 (58.7)	85 (70.2)	105 (86.8)	97 (80.2)
12	62 (51.2)	96 (79.3)	106 (87.6)	78 (64.5)
13	80 (66.1)	86 (71.1)	105 (86.8)	96 (79.3)
14	54 (44.6)	71 (58.7)	103 (85.1)	93 (76.9)
15	73 (60.3)	84 (69.4)	104 (86.0)	98 (81.0)

: reported most frequently in Question

101 (83.5%). Lack of ICOC with occupational therapists was reported most frequently in Questions 2 (Did you tell other specialists about the oral care requested by patients or their family members?) and 8 (Did you propose to other specialists changing your oral care plan according to disease progression?) (**Table 5**).

Discussion

The ICOC scale developed by the researchers was considered to be reliable and valid. The results of this study therefore reflect the actual ICOC as self-evaluated by PNs. In our analysis results, most PNs made a self-assessment that they were aware of the importance of oral care but the current practice was inadequate, which was similar to the results in non-psychiatric nurses reviewed by the previous study.[12] Patients may not be able to maintain oral health only with oral care by PNs and this could lead to oral health problems.[8,13] Oral health problems in patients have assumed serious proportions lately. Specifically, even young patients tend to have severe periodontal diseases due to psychiatric symptoms, social dysfunctions, or adverse reactions to treatment (antipsychotic agents). In such cases, untreated caries and tooth loss are common.[8,13] PNs are limited in their ability to improve debilitating oral health conditions, and collaborative work with different professions are necessary.[6,14] However, our self-assessment analysis revealed that PNs rarely worked with other specialists for oral care. Naito et al.[14] suggested that PNs were feeling responsible for organic oral care. Oral care supports health-restoring behavior, which is one of the unique functions of nursing.[15] This unique function may have imposed a responsibility of oral care on PNs, interfering with consideration of the need for ICOC. An interprofessional approach is required so that a PN can assess individual psychiatric symptoms and oral conditions, considering the given limit of oral care provided by a PN alone, and that in collaboration with other specialists if needed.

In the item-specific analysis of the ICOC scale, there were PNs who reported collaboration in none of the

question items and such PNs were observed across all four different types of professions. Items with a higher percentage of ICOC failure would be relatively challenging for PNs. The highest percentage of PNs who had reported ICOC failure with physicians in Question 13 (Did you express your appreciation or communicate a positive evaluation to other specialists for their oral care practice?) suggests the need to communicate positive assessments of oral care to physicians and to build a relationship respecting each other's specialties.[6] Both dentists and dental hygienists were reported to have less collaboration in the same Question 12 (Did you have regular opportunities to meet other specialists (study group, conference, etc.)?), which suggest the need to have meetings with dentists and dental hygienists on a regular basis.[6] The percentage of PNs who had ICOC failure with occupational therapists was highest in Questions 2 (Did you tell other specialists about the oral care requested by patients or their family members?) and 8 (Did you propose to other specialists changing your oral care plan according to disease progression?). This suggests PNs were required to have more communication with occupational therapists on oral care requested by patients or their family members and to propose modification of oral care plan, if needed, according to variable disease conditions.[9]

Analysis by profession revealed a difference in ICOC. Physician was a profession having the closest ties with PNs in oral care among all four professions. Physicians are often involved in the therapeutic control of psychiatric symptoms that may interfere with oral care in the mentally disabled and therefore seemed to have many opportunities to work with PNs. Dentist was the second profession which worked frequently with PNs. This can be explained by the fact that patients with poor oral health must receive professional oral care by dentists.[7] Occupational therapist was the third profession working with PNs following physicians and dentists. Occupational therapists may have closer ties with PNs than dental hygienists because they provide patients with training of oral care and other activities of daily living.[9] The study results of Naito et al. show that PNs had awareness of collaboration with dental hygienists in organic oral care,[14] whereas in this study the profession was found to collaborate less. While the effects of collaboration with dental hygienists was demonstrated,[16] the self-assessment of ICOC was the lowest among three types of professions, suggesting the need to promote PNs toward collaboration with a higher awareness of its effectiveness.

We demonstrated that once they have built a cooperative relation with one of the specialists, PNs tended to expand collaboration with other specialists, as demonstrated by the correlation in the total ICOC scores with physicians, dentists, occupational therapists, and dental hygienists. Previous studies have shown that collaborative experience could increase the recognition of collaboration effects in PNs.[16] In the future, it is necessary to make more opportunities to link PNs with other specialists.

Our study is limited in that the results concern PN's self-assessment and do not represent the actual ICOC provided by PNs. However, future commitment to improve PNs' self-assessment demonstrated in this study would open the path to collaboration with physicians, dentists, occupational therapists, and dental hygienists in oral care as well as to enhancement of oral care quality.

Reference

1) José A, Gil M, Ana L, et al : Oral health in the elderly patient and its impact on general well-being : a nonsystematic review. Clinical Interventions in Aging, 10 : 461–467, 2015.
2) M. Izumi, K. Takeuchi, S. Ganaha, et al : Effects of oral care with tongue cleaning on coughing ability in geriatric care facilities : a randomised controlled trial. Journal of Oral Rehabilitation : 953–959, 2016.
3) Peter B. Lockhart, Michael T. Brennan, Martin, et al : Poor oral hygiene as a risk factor for infective endocarditis-related bacteremia. The Journal of the American Dental Association, 140 (10), 1238–1244 : 2010.
4) Fujii W, Kanamori D, Nagata C, et al : Does oral care contribute to brain activation? : One case of functional near-infrared spectroscopy study in patients with a persistent disturbance of consciousness. Clinical Case Reports, 2 (4) : 143–146, 2014.
5) Ministry of Health, Labor and Welfare : Dental oral health related information, Act on Promotion of Dental Oral Health, http://www.mhlw.go.jp/stf/seisakunitsuite/bunya/kenkou_iryou/kenkou/shikakoukuuhoken/, Browsed date 2015/11/28 (in Japanese)
6) Ministry of Health, Labor and Welfare : Basic ideas

for promoting team medical care and practical case examples, 2011. http://www.mhlw.go.jp/stf/shingi/2r9852000001ehf7.html. Browsed date 2015/11/28 (in Japanese)
7) 8020 Foundation : Getting Started Oral Care, http://www.8020zaidan.or.jp/magazine/start_care01.html. Browsed date 2015/11/29 (in Japanese)
8) Valerie Bertaud-Gounot, Viviane Kovess-Masfety, Catherine Perrus, et al : Oral health status and treatment needs among psychiatric inpatients in Rennes, France : a cross-sectional study. BMC Psychiatry, 13 (227) : 1–9, 2013.
9) Ministry of Health, Labor and Welfare : Study group on future ways of mental health care New regional mental health care system Subcommittee The 3rd session meeting submission hearing document What you can do for psychiatric occupational therapists, 2017, http://www.mhlw.go.jp/file/05-Shingikai-12201000Shakaiengokyokushougaihokenfukushibu-Kikakuka/0000125867.pdf#search Browsed date 2015/11/29 (in Japanese)
10) Ministry of Health, Labor and Welfare : Health information site for lifestyle disease preventionHealth term glossary Oral care https://wwwe-healthnet.mhlw.go.jp/information/dictionary/teeth/yh-010.html. Browsed date 2015/11/29 (in Japanese)
11) Fujita J, Fukui S, Ikezaki S : Development of multi-occupational collaborative action scale of medical care and nursing career in home care. Journal of Health and Welfare Statistics, 62 (6) : 1–9, 2015 (in Japanese)
12) Yokotsuka A, Sumida Y, Hiyama K, et al : Oral Health Care Awareness of Nurses in Hospitals : —Comparisons of Different Wards and Years of Clinical Experience—. Japanese Society of Gerodontology, 27 (2) : 87–96, 2012 (in Japanese)
13) Kumar M, Chandu GN, Shafiulla MD. : Oral health status and treatment needs in institutionalized psychiatric patients : One year descriptive cross sectional study. Indian Journal Dental Research : 171–177, 2006.
14) Naito M, saito M, Fujino Y : Oral Hygiene and Oral Hygiene Activities of Psychiatric Disorder Patients (part 1) : registered nurses, awareness. Bulletin of Niigata Seiryo University, 8 : 77–86, 2008 (in Japanese)
15) Henderson, V : Basic principles of nursing care, International Council of Nurses, Geneva, 1997, 1–91.
16) Nancy J Ames, Pawel Sulima, Jan M Yates, et al : Effects of Systematic Oral Care in Critically Ill Patients : A Multicenter Study. American Journal of Critical Care, 20 (5) : 103–114, 2011.

「口腔ケアの他職種連携」に対する精神科看護師の自己評価

（2018 年 1 月 27 日受理）

中島富有子・窪田惠子・町島希美絵

本研究の目的は，「口腔ケアの他職種連携」に対する精神科看護師の自己評価を明らかにすることである。他職種である医師，歯科医師，歯科衛生士，作業療法士との連携について，研究者が作成した尺度を使用し調査した。精神科看護師 121 名の有効回答のデータから，尺度の信頼性･妥当性を確認した。その後，「口腔ケアの他職種連携」に対する精神科看護師の自己評価について分析した。

精神科看護師の多くは，口腔ケアの重要性を感じているが，実施している口腔ケアは不十分であるという自己評価を行っていた。「口腔ケアの他職種連携」に対する精神科看護師の自己評価は，医師と連携ができていない 27.3%，歯科医師と連携ができていない 43.0%，作業療法士と連携ができていない 57.0%，歯科衛生士と連携ができていない 77.7% であることが明らかになった。精神科看護師が口腔ケアを実施する上で連携している職種は多い順に，医師，歯科医師，作業療法士，歯科衛生士であった。他職種連携において，精神科看護師は 1 つの職種と連携すると，その他の職種とも連携する傾向があった。以上のことから , 精神科看護師が他職種と連携し口腔ケアの質向上ができる取組みの必要性が明らかになった。

キーワード : 口腔ケア，他職種連携，精神科看護師，自己評価

福岡看護大学