

Development of a Korean Version of Simple, Intuitive Descriptions for Clinical Use of the Generic Functioning Domains in the ICD-11 Chapter V

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Abstract

Background: The World Health Organization recommends the International Classification of Functioning, Disability, and Health (ICF) as a framework for collecting comprehensive information about functioning and disability. However, the utility of the ICF is limited by some inconsistencies in the understanding of the ICF categories. Simple, intuitive descriptions (SIDs) highlight the core concepts of the ICF category definitions in user-friendly languages and enhance the utility of the ICF for routine clinical practice. Currently, the 10th revision of the International Classification of Disease (ICD-10) is being universally used for mortality and disease-related data and as a major indicator of health status in South Korea and worldwide. However, the 11th revision (ICD-11) was developed in 2018 with the addition of Chapter V which reflects functioning properties and better explains the association between functioning and disease. We aimed to develop a Korean version of SIDs for clinical use of the generic functioning domains in the ICD-11 Chapter V.

Methods: The initial Korean SID version proposal for the ICF Generic-30 set was translated following the Italian version. For the remaining 17 codes in the generic functioning domains were developed using the original ICF descriptions; the WHO Disability Assessment Schedule; Model Disability Survey; Korean Classification of Functioning, Disability, and Health; and a previous Japanese study. Multistage consensus virtual (Zoom) conferences were held in October 2020 in Korean to develop the SIDs. The final proposal for the Korean version of the SIDs was selected through three rounds of voting.

Results: This study demonstrated a total of 47 codes of generic functioning domains in the ICD-11 Chapter V. From vote A, 20 of the 47 items were selected; from vote B, 23 of the remaining 27 items were selected; and the remaining four items were ultimately selected from the final vote. All experts agreed to the final SID proposal.

Conclusions: This is the first study in South Korea to attempt the development of SIDs for ICD-11 Chapter V. Therefore, the findings of this study could be used broadly when ICD-11 is adopted for use in Korean clinical settings.

Background

The World Health Organization (WHO) global disability action plan (2014–2021) recommends the International Classification of Functioning, Disability, and Health (ICF) as a framework for collecting comprehensive information about functioning and disability [1, 2]. For international adoption of the ICF, the WHO and the International Society of Physical and Rehabilitation Medicine included the development of national ICF-based data collection models in their 2015–2017 collaboration plans. In Europe, the Physical and Rehabilitation Medicine (PRM) section of the European Union of Medical Specialists (UEMS-PRM) recommended that the diagnosis and evaluation of components associated with the rehabilitation process (physical function, physical structure, activities, participation, and situational factors) be partially included in PRM [3].

For such ICF implementation activities to be successful, active support and cooperation are needed from PRM associations and societies around the world, including the UEMS-PRM, European Society of Physical and

Rehabilitation Medicine, Italian Society of PRM (SIMFER), and Chinese Society of PRM (CARM). In an international effort to achieve this, an appropriate tool for collecting functioning data (ICF Generic, Rehabilitation, and Core Sets) was developed and is being used for functioning assessments [4].

In 2001, the WHO developed the ICF as simple, intuitive descriptions (SID) to i) increase the clinical efficiency and ii) enable the assessment of functioning from various aspects. These are achievable through implementation in rehabilitation medicine, whereby the SID methodology was developed. Various studies have utilized such methodology as a tool for assessing functioning in rehabilitation medicine in countries outside South Korea, including China (2016), Italy (2017), and Japan (2020)[4–6]. Follow-up studies include a study that investigated the potential for the expanded use of the ICF by applying it to clinical practice and outpatients in Italy. Further, a study in Japan developed a reference standard (rating scale) and reported on the results of a pilot study conducted on three clinicians and nine patients [5].

Meanwhile, the International Classification of Disease (ICD) developed by the WHO has been translated into 43 different languages to date. The ICD has been used for mortality and disease-related data, and as a major indicator of health status, in approximately 115 countries. Currently, the 10th

revision of the ICD (ICD-10) is universally used in South Korea and worldwide. However, despite the passing of more than 25 years since the development of ICD-10, information about advances in clinical medicine has not been reflected. Due to this need for a revision, the ICD-11 was developed in 2018 [7].

In the ICD-11, “Chapter V – Supplementary section for functioning assessment” (*hereinafter* Chapter V) was newly added to reflect functioning properties and better explain the association between functioning and disease [8].

Chapter V consists of the WHO Disability Assessment Schedule (WHODAS) 2.0, Model Disability Survey (MDS) brief version, and generic functioning domains (Fig. 1). The generic functioning domains consist of the ICF Generic-30 set (or rehabilitation set) which includes the previously developed ICF Generic-7 Set and 19 additional items needed to describe the universal functions of the healthcare environment.

Chapter V was drafted based on the ICF, and most healthcare experts recommend the complementary use of the ICD and ICF to provide a clearer description of human diseases, health, and health status. Moreover, South Korea is facing a situation that requires basic data for early adoption and establishment of the international trend for ICD-11, such as that being reflected in the Korean Standard Classification of Diseases (KCD-7) in accordance with Article 22 of the Statistics Act (Standard Classification).

Accordingly, the objective of this study was to use the methodology recognized internationally (by Italy, China, Japan) to develop a Korean version of SIDs for generic functioning domains [4–6]. We used terminology familiar to healthcare professionals for the adoption and utilization of ICD-11 Chapter V in South Korea for the first time.

Methods

Development of SIDs of ICD-11 Chapter V

To develop the SIDs for the ICD-11 Chapter V generic functioning domains, we held multi-stage consensus conferences. The conferences were attended by multidisciplinary rehabilitation experts (in 30 rehabilitation sets that included seven generic sets and 19 additional codes that were added). Chapter V generic functioning domains comprised a total of 49 items—30 rehab sets and 19 codes of these, two codes (VB40.Y: other specified generic functioning domains and VB40.Z: generic functioning domains, unspecified) were excluded because they were considered items that could not be classified.

In holding the conferences, instructions obtained from the ICF Research Branch (the country version of the ICF Clinical Tool) were referenced and the same methodology used in previous studies from China, Italy, and Japan was followed [5, 6].

Participants

For the multi-stage consensus process, 24 rehabilitation-related experts with at least three years of clinical experience were recruited through recommendations from relevant academies, rehabilitation hospitals, and clinical institutions. The 24 experts were divided into three working groups (WGs), ensuring that each group (n = 8) included experts from various disciplines, including doctors of rehabilitation medicine, nurses, physical therapists, occupational therapists, psychotherapists, and social workers. One leader was selected for each WG, and one additional assistant was assigned to each WG from the research team. Although the leader had the right to cast a vote, the leader maintained an objective position and played the role of listening to the opinions within the group and conducting the conference. The assistant did not have the right to cast a vote and played a role in keeping records of group discussions and assisting the leader in ensuring that the discussions proceeded smoothly. Officials from the Ministry of Health and Welfare and persons from academia played the role of observers. One person among the research team members was assigned the responsibility of counting the votes. The conferences were conducted in Korean.

Korean translation

The 47 items in the generic functioning domains were checked for code duplication and subordinate concepts. For the original ICD generic-30 set, the Chinese and Italian methodologies were reviewed. Further, the original developers (Masahiko Mukaino and Melissa Selb) were contacted to obtain the English versions of the Japanese and Italian SID initial proposals [4, 6]. Additionally, two researchers familiar with the ICF translated the Japanese and Italian SID initial proposals to serve as a reference in developing the Korean version of the SIDs. When faced with ambiguous concepts during the translation to Korean, the original descriptions of ICF categories were reviewed. Moreover, efforts were made to change some terms, for reflecting the cultural circumstances of Korea while retaining the original concepts and linguistic meanings as much as possible.

For the remaining 17 subordinate concepts, a previous study from Japan was referenced [5]. However, two out of 17 codes were excluded (VA40: taking care of household responsibilities and VA41: doing most important household tasks) in the Japanese study, whereas in this study, all 17 codes were included. Two researchers familiar with the ICF translated the Japanese initial proposal into Korean. The initial Korean draft was developed using the ICF categories, WHODAS, MDS, Standard Korean Language Dictionary, Oxford English

Dictionary, and tools for physical/occupational/speech therapy assessment, psychological assessment, and activities of daily living assessment.

Moreover, grammatical errors and propositions/particles were revised through consultation with an ICF expert and a professor of the Korean language. Reflection of the ICF core concepts and appropriateness for SIDs was also tested. Subsequently, the initial SID proposal was derived through an internal research team meeting.

Changes to how meetings are conducted due to coronavirus disease (COVID-19)

Countries around the world have suffered significant losses due to the COVID-19, which began in 2019. As of now, the third wave of COVID-19 is starting in Europe, the USA, and Asia. As of November 23, 2020, when this report was written, the total (cumulative) number of confirmed cases and deaths worldwide had reached 57,882,183 and 1,377,395, respectively. Further, confirmed cases continued to increase, with 604,943 new cases reported on the day [9]. Due to the COVID-19 pandemic, Europe and the USA have implemented lockdowns and social distancing measures. Like other countries, South Korea is beginning to show signs of a third wave.

The multi-stage consensus conference took place in October 2020 in Korea. At that time, there were 69 newly confirmed cases, 33 imported cases, and 24,805 cumulative confirmed cases in South Korea [10]. Because the country was under level 1 social distancing, only meetings with less than 50 people were permitted [11]. Accordingly, this conference was held as an online (virtual) meeting to comply with social distancing guidelines. Moreover, most rehabilitation experts who agreed to participate in the study were medical professionals working in various hospitals. Therefore, there was a need to refrain from holding a physical meeting due to concerns about in-hospital infections. Although the adoption of the online (virtual) meeting method was unavoidable, the methodology prescribed by the ICF Research Branch was followed as closely as possible.

According to the study from China [6], their conference was held over two to three days. Our conference was held over two days via Zoom (Zoom Video Communications Inc., 2016). The multi-stage consensus conference included three rounds of voting. Because of the physical limitation of holding the conference virtually, the first round of voting (vote A) involved receiving responses via Google forms. The second and third rounds of voting (vote B and final vote, respectively) were conducted in real-time via Zoom. On the first day, a virtual meeting took place for the introduction of the SID initial proposal and explanation of the study overview and the process of casting vote A through Google forms. On the second day, the results from vote A, cast via Google forms, were announced and new SID proposals were submitted by each group. However, the final decision was made through vote B and the final vote.

ICF-related materials were distributed in advance for better understanding by the participants. On the first day (October 6, 2020) of the conference, ICF concepts were introduced to the participants via Zoom. Subsequently, the objectives of this study and the multi-stage consensus process were introduced. Further, an explanation was given on the method for casting vote A via Google forms. For vote A, each participant was instructed to select “agree” or “disagree” on whether the 47 items in the SID initial proposal were simple and intuitive.

Those who disagreed were requested to present and submit their opinions. For this step, the participants were notified in advance of the general rule used for deciding whether the basic ICF concept was applied and whether the use of the items in clinical practice could be important. Moreover, data were sent to personal emails to allow the participants to review the SID initial proposal for six days. Therefore, the responses for vote A (via Google forms) were received by October 12, 2020.

The researchers contacted each participant to provide instructions on how to participate in the virtual meeting and how to use Zoom in case of any difficulties in carrying out the virtual meeting during the conference on October 13th. In addition, simulations were conducted to minimize technical difficulties during the virtual meeting on the actual day of the conference.

On the second day (October 13, 2020), the conference proceeded using the results from vote A. After an explanation from the presider, attendance was checked and the voting feature in Zoom was used. A systems expert was hired in case of a sudden disruption of the meeting due to a technical malfunction. In the first plenary session (plenary session 1), the presider introduced the results for vote A and the agreed/disagreed concepts to the participants. In each WG, if 75% of the members (6/8) agreed that a certain item was sufficiently “simple and intuitive,” then an agreement (consensus) was considered to have been reached on that item and the item was selected. Otherwise, a disagreement was considered to have been reached on the item, and the item was not selected (Fig. 2). Moreover, if any one of the three WGs reached a disagreement on any item, then that item was not selected.

- Agreement: Descriptions for the ICF categories are simple and intuitive
- Disagreement: Descriptions are ambiguous and require additional revision

Items for which an agreement was not reached in vote A (“ambiguous categories”) were evenly distributed among the three WGs. Each WG considered real-life clinical scenarios for assessing the functioning of patients. For consistent and accurate understanding by the readers, each WG then drafted new descriptions for each category with consideration for cultural and linguistic factors. For this process, the participants were also instructed to refer to the ICF original definitions and the SID initial proposal.

The new proposals developed in this manner were presented by the leader of each WG at the second plenary session (plenary session 2). Subsequently, vote B was conducted during the third plenary session (plenary session 3). The criteria for agreement/disagreement for vote B were the same as those for vote A. However, for vote B, each participant voted individually, instead of voting by group. If 75% of all participants (18/24) agreed to a certain item, then that item was selected. Otherwise, the item was not selected. The results from vote B were announced during the fourth plenary session (plenary session 4). The items that were not selected from vote B were distributed to each WG, which then drafted revised proposals for the allocated items. As before, the participants were instructed to consider collecting data about the functioning of patients and ICF original definitions and to reference meeting notes and the first revision of SIDs developed from previous sessions. Accordingly, a total of three-second revisions of SIDs were created for each item.

In the final vote, the participants were instructed to determine which of the three SIDs proposed by the three WGs was the simplest and most intuitive and vote accordingly. The proposal that received the majority of votes was selected as the final proposal.

Translation work

For the ICF to be used actively in the field of rehabilitation medicine, the Western Pacific region but in other countries as well, the final SIDs was translated into English. Thus, the experience of developing the Korean version of the SIDs could be shared with the international community. The methodology shared by the ICF Research Branch was followed, and the translation was carried out in three stages. In the first stage, four multidisciplinary experts, including those from rehabilitation medicine and healthcare fields, who are fluent in Korean and English, translated the final Korean version of SIDs into English. Here, the English-translated version was checked to ensure that the concepts matched those in the final Korean version of SIDs. An expert panel familiar with the ICF concepts decided on the final description by comparing and reviewing the English versions of the Italian and Japanese SIDs with the final Korean version developed in this study. In the third stage, a native English speaker reviewed and revised the final descriptions to develop the English-translated version of the Korean SIDs. Here, the original ICF descriptions were used in place of any ambiguous expressions.

Results

Participants

The multi-stage consensus conference was attended by 24 experts from various disciplines (six doctors of rehabilitation medicine, four physical therapists, four occupational therapists, three nurses, three clinical psychologists, three social workers, and one medical record administrator). The participants included nine males and 15 females. Fourteen and 10 participants were from the public and private sectors, respectively. Table 1 shows details of the participants by WG.

Table 1
Socio-demographics of participants/experts stratified by working group (WG)

	WG1 (n = 8)	WG2 (n = 8)	WG3 (n = 8)
Sex			
Female	4	5	6
Male	4	3	2
Discipline			
Doctor of rehabilitation medicine	2	2	2
Physical therapist	1	2	1
Occupational therapist	2	1	1
Nurse	1	1	1
Social worker	1	1	1
Clinical psychologist	1	1	1
Medical record administrator	0	0	1
Sector			
Public	5	5	4
Private	3	3	4

(Insert Table 1 here)

Final SIDs

As described above, a multi-stage consensus process, which included three rounds of voting, was carried out. From vote A, 20 out of 47 items were selected; from vote B, 23 out of the remaining 27 items were selected; and the remaining four items were ultimately selected from the final vote. All experts agreed to the final SID proposal (Table 2), and the English version of the final proposal is given in Appendix 1.

Table 2
Descriptive statistics of the consensus rating across the three steps of the process

	ICD generic functioning documents	Vote A in % (N = 24)			Vote B in % (N = 24)	Final number of votes for each proposal (N = 24)			Consensus
		WG1	WG2	WG3		Proposal 1	Proposal 2	Proposal 3	
1	VB60 Voice and Speech Related Functions	75	100	87.5					Vote A
2	VB70 Exercise tolerance functions	62.5	75	25	83				Vote B
3	VB80 Functions related to the Digestive system	75	87.5	50	92				Vote B
4	VB90 Urinary functions	62.5	50	75	92				Vote B
5	VB91 Sexual functions	75	100	100					Vote A
6	VC00 Mobility of joint functions	62.5	87.5	50	79				Vote B
7	VC01 Muscle power functions	50	87.5	62.5	79				Vote B
8	VB40.5 Functions of the skin and related structure	75	75	75					Vote A
9	VC10 Handling stress and other psychological demands	50	62.5	75	83				Vote B
10	VA23 Carrying out daily routine	100	87.5	87.5					Vote A
11	VC20 Transferring oneself	50	50	75	71	5	11	8	Final vote
12	VC21 Carrying, moving, and handling objects	75	75	37.5	79				Vote B

	ICD generic functioning documents	Vote A in % (N = 24)			Vote B in % (N = 24)	Final number of votes for each proposal (N = 24)			Consensus
		WG1	WG2	WG3		Proposal 1	Proposal 2	Proposal 3	
13	VC22 Moving around using equipment	50	75	87.5	92				Vote B
14	VC23 Using transportation	75	87.5	75					Vote A
15	VA11 Changing body position – standing	87.5	100	87.5					Vote A
16	VA10 Maintaining a standing position	37.5	62.5	87.5	79				Vote B
17	VA14 Walking	37.5	75	62.5	100				Vote B
18	VA12 Moving around within the home	50	75	87.5	96				Vote B
19	VC30 Caring for body parts	50	62.5	87.5	96				Vote B
20	VC31 Toileting	75	75	87.5					Vote A
21	VC32 Looking after one's health	87.5	75	87.5					Vote A
22	VA20 Washing oneself	75	75	75					Vote A
23	VA21 Dressing	75	75	87.5					Vote A
24	VA22 Eating	75	100	75					Vote A
25	VC40 Preparing meals	62.5	100	75	96				Vote B
26	VC41 Assisting others	62.5	50	75	79				Vote B
27	VA42 Doing housework	75	87.5	87.5					Vote A
28	VA40 Taking care of household responsibilities	87.5	100	62.5	83				Vote B

	ICD generic functioning documents	Vote A in % (N = 24)			Vote B in % (N = 24)	Final number of votes for each proposal (N = 24)			Consensus
		WG1	WG2	WG3		Proposal 1	Proposal 2	Proposal 3	
29	VA41 Doing most important household tasks	87.5	87.5	87.5					Vote A
30	VC50 Basic interpersonal interactions	75	62.5	75	83				Vote B
31	VA30 Relating with strangers	62.5	87.5	75	67	1	16	7	Final vote
32	VA34 Intimate relationships	75	87.5	87.5					Vote A
33	VA03 Basic learning	75	75	62.5	79				Vote B
34	VA02 Solving problems	75	75	75					Vote A
35	VA04 Communicating with - receiving - spoken messages	75	75	75					Vote A
36	VA05 Conversation	87.5	100	75					Vote A
37	VA43 Remunerative employment	62.5	87.5	87.5	71	12	6	6	Final vote
38	VA50 Recreation and leisure	50	75	87.5	96				Vote B
39	VA52 Human rights	87.5	100	100					Vote A
40	VB00 Energy and drive functions	62.5	100	62.5	71	15	5	4	Final vote
41	VB01 Sleep functions	75	100	87.5					Vote A
42	VB02 Emotional functions	62.5	62.5	62.5	79				Vote B
43	VA00 Attention functions	62.5	87.5	87.5	88				Vote B

	ICD generic functioning documents	Vote A in % (N = 24)			Vote B in % (N = 24)	Final number of votes for each proposal (N = 24)			Consensus
		WG1	WG2	WG3		Proposal 1	Proposal 2	Proposal 3	
44	VA01 Memory functions	75	75	62.5	88				Vote B
45	VB10 Sensation of pain	62.5	87.5	62.5	79				Vote B
46	VA90 Seeing and related functions	75	100	100					Vote A
47	VA91 Hearing and vestibular functions	62.5	87.5	87.5	83				Vote B

Four core concepts were derived through a qualitative content analysis of the discussion notes: 1) the harmonization of terminology when ICF concepts and terminology used by clinicians are different; 2) retention of ICF expressions when detailed descriptions that may not be simple nor intuitive can clearly describe an item; 3) use of examples could add clarity even if the SID is not simple; and 4) use of different terminology when the wording is awkward in the Korean culture and/or language.

1. Harmonization of terminology when ICF concepts and terminology used by clinicians are different

The SID initial proposal was developed with the inclusion of core concepts to reflect the ICF original definitions as much as possible. However, if the terminology used by clinicians in South Korea was different, expressions for harmonization of such terminology were proposed, as described in the following three examples:

1) For VB80 (functions related to the digestive system), “functions related to intake, decomposition, absorption, and defecation of food” was initially proposed. This description included intake, digestion, and defecation in the original ICF description. However, many clinicians were concerned about the need for including defecation. Moreover, some opined that the digestive system should only include intake up to digestion. Since others opined that digestion was more intuitive than decomposition and absorption, “functions related to intake and digestion of food” was the final description selected.

2) The initial proposal for VB90 (urination functions) was “voluntary control and discharge from the urinary bladder,” which was based on the final SID English version from Italy (“Voluntary control and discharge from the urinary bladder”). Many clinicians pointed out that the use of the term “voluntary” here could be problematic, while some opined that using the term “autonomous” would be more appropriate. However, no changes were made based on opinions that describing “voluntary” by another term or expression would not be simple nor intuitive. Moreover, based on the opinion that the inclusion of “urine” or “urination” would be intuitive, the final proposal selected was “voluntary control of the urinary bladder and discharge of urine.”

3) The initial proposal for VC00 (mobility of joint functions) was “range and smoothness of joint movement.” However, many clinicians opined that the range of joint movement must include both passive movement (e.g., a range of motion exercises by a physical therapist) and active movement (e.g., patients moving autonomously). Accordingly, we decided to use “functions related to joint range of motion and smooth joint movement.”

(Insert Table 2 here)

2. Retention of ICF expressions when detailed descriptions that may not be simple nor intuitive can clearly describe an item

For example, the initial proposal for VB70 (exercise tolerance functions) was “physical exertion according to respiratory and cardiovascular functions.” However, some participants mentioned that because the original ICF description (“functions related to respiratory and cardiovascular capacity as required for enduring physical exertion”) includes the term “endure,” a term that conveys the same meaning should be included. In addition, others opined that changing “respiratory and cardiovascular functions” to “cardiopulmonary functions” would be simpler and more intuitive. Accordingly, the final proposal selected was “cardiopulmonary functions for enduring physical exertion.”

3. Use of examples could add clarity even if the SID is not simple

Many clinicians insisted that detailed expressions of the ICF must be included in the final SIDs. On the other hand, other clinicians argued that they are not appropriate because they are not simple or intuitive. However, all clinicians agreed that it is necessary to add detailed contents of the ICF if doing so can explain the item more clearly.

For example, the initial proposal for VC10 (handling stress and other psychological demands) was “managing and controlling psychological burden needed to perform tasks that require responsibility under stress, chaos, or crisis situation.” Many clinicians opined that the description was not appropriate as a SID and that it should be shortened and revised for easier understanding. In particular, there were some conflicting opinions on whether the provided examples (stress, chaos, or crisis situation) should all be included and that chaos or crisis situations are somewhat different from stress since they refer to specific events. However, these examples were included since they helped describe the item more clearly. Based on the expert opinion that the expression should be more concise, the final proposal was revised to “managing and controlling psychological burden for performing tasks under stress, chaos, or crisis situation.”

As another example, the initial proposal for VC22 (move around using equipment) was “movement using specific equipment (skates, skis, and scuba diving equipment) or assistive device (wheelchair and others).” There were opinions that skating, skiing, and scuba diving should be removed since they have little association with rehabilitation. However, a decision was made to include the examples as given in the ICF original description. This decision was based on the need to expand the scope to include other subjects in addition to those receiving rehabilitation therapies. However, the term “specific equipment” was changed to “equipment for moving around.”

4. Use of different terminology when the wording is awkward in the Korean culture and/or language

During the process of translating English content into Korean, revisions were made to expressions that were awkward or did not conform to Korean grammar rules. Moreover, efforts were made to use different terminology, while retaining the same meaning and concept, to express items that reflected the characteristics of Korean culture.

For example, the initial proposal for VC21 was “carrying, moving, and handling objects.” The Japanese SID used the term “handling,” but the multi-stage consensus conference opined that the term “handling” is ambiguous. Moreover, the Korean terms for carrying and handling are purely Korean terms, whereas the term used for moving is based on Chinese characters (Hanja). Due to this ambiguity, revisions were made. Moreover, the scope was expanded from “objects” to “subjects,” and because the terms moving and carrying are somewhat duplicative, the terms were changed to “transferring” and a new term “lifting” was added. The final proposal selected was “lifting, transferring, and handling subjects”.

A gender issue was also raised, an example of which was the initial proposal for VA40 (taking care of household responsibilities). The initial proposal for this item was “taking care of household responsibilities as a member of the household,” but some opined that household responsibilities in this statement seemed to allude to the household responsibilities of women, more so than men, within the context of Korean culture. Other opinions indicated the need to consider whether the description also includes the qualitative meaning, such as “how well the household responsibilities are taken care of” rather than simply taking care of such responsibilities.

In addition, there was an item for which the final proposal was revised to reflect the characteristics of Korean culture. That item was VA30 (relating with strangers), for which the initial proposal was “relating with strangers for a specific purpose such as asking for directions.” Many clinicians opined that “specific purpose” should be removed since Koreans do not talk to strangers for a specific reason due to their cultural characteristics. Koreans are unlike people in other countries who frequently engage in small talk. Moreover, others opined that it would be more intuitive to include examples, such as relating to strangers for asking directions or buying goods. Accordingly, the final proposal selected was “relating with strangers (e.g., for asking directions, buying goods, etc.).”

Discussion

This study was the first attempt in South Korea to develop a practical tool for using the generic functioning domains of ICD-11 Chapter V in clinical rehabilitation settings. The first step in this process was the drafting of the Korean SID initial proposals by referencing results from overseas studies using the SID development methodology for clinical use of the ICF. Among the components of the generic functioning domains, the initial proposals for the rehabilitation sets were prepared by referencing results from overseas studies and ICF original descriptions. The initial proposals for the remaining items were also prepared based on the original ICF descriptions. The final revisions were made based on the opinions of Korean language scholars from an expert advisory meeting.

The second step included the multi-stage consensus conference, for which experts in multi-disciplinary rehabilitation fields were selected and divided into three WGs. The final proposals for the Korean version of the SIDs were selected through three rounds of voting.

Lastly, a four-member multi-disciplinary panel was requested to translate the final proposals for the Korean version of the SIDs into English. During the translation process, revisions were made to expressions that did not accurately convey the meaning or were not consistent with the original ICF definitions. In addition, an expert in the medical field with English editing experience was requested to edit the English-translated material to develop the English version of the Korean SIDs.

This study followed the same SID development process used in China, Italy, and Japan [4, 6]. However, the implementation of the process differed from that of the previous studies. One of the major differences is that the conference was carried out via virtual meetings, unlike the methodology used by the other studies, due to the circumstances surrounding the COVID-19 pandemic.

Since the initial outbreak of COVID-19 in China in December 2019, video conferencing programs have seen exponential growth. For example, the number of Zoom users was approximately 10 million toward the end of 2019, but the number increased explosively to 300 million by April 2020 [12]. This was due to the growing global demand from schools holding online classes and businesses relying on remote work and meetings. Further, Zoom meetings have the advantage of being a safe option with low infection risk when distancing between people has become essential.

According to studies from other countries, the medical environment in the US and Europe is using video conferencing to diagnose patients and make internal decisions among medical staff [13]. Moreover, the UN General Assembly, an international organization, also held remote sessions for multilateral decision-making during the COVID-19 pandemic.

In this study, Zoom was used as a tool for virtual meetings. The virtual meeting format was being used for the first time, and some advisors may not have been familiar with virtual meetings. Moreover, there were internal opinions among the research team members that longer discussion time may be needed to prepare a new SID proposal after reviewing and discussing relevant materials. This was more so because the workshop was being held in a non-face-to-face format. Therefore, the number of workshop sessions was changed from one to two. Further, attempts were made to shorten the duration of the workshops by having the materials and data submitted to the participants in advance.

People were somewhat unfamiliar with the virtual meeting format during the actual workshop. Nonetheless, the discussions within each WG for the new proposal for SID development were active. Moreover, the plenary session, where the final voting took place, was carried out without major difficulties. When using Zoom for future decision-making meetings, it may be necessary to conduct such meetings by also considering methods that can overcome Zoom fatigue experienced while conducting the workshop in this study.

This study was conducted in compliance with the contents of the “Instructions: Country Version of the ICF Clinical Tool” from the ICF Research Branch. In particular, efforts were made to recruit experts from various disciplines. The aforementioned studies from China and Italy mentioned that participation by multi-

disciplinary expert panels is important for the developed ICF tools to be applicable in clinical settings [4, 6]. They also reported that cooperation from such multi-disciplinary panels could enhance the quality of the consensus process and final SID development. Therefore this study also selected multi-disciplinary participants from various fields of occupation, ensuring that experts from different disciplines were distributed evenly in each WG. Regarding sex, the overall percentage of females was higher. However, this result reflects the characteristics of the nursing, psychology, and social welfare fields. Among rehabilitation fields, these typically have a higher percentage of females.

In the SID development process, maintaining the equivalence of concepts and meanings between the ICF concepts and the SIDs was important. The ICF is an international standard tool developed for collecting functioning and disability-related data. The SIDs developed in Italy, China, and Japan must show a conceptual (terms must have the same meaning) and semantic (meaning must be the same as the association with the concept) match with the original ICF [14]; this is important for comparison with data collected from other parts of the world. We also considered this to be important. Accordingly, we contacted the authors of the other studies and obtained their initial proposals. However, when applying the ICF concepts, we faced difficulties during the process of translating the initial proposals into Korean. For example, when an ICF concept was included as an example, such addition made it intuitive, but not simple, raising concerns about use in actual clinical settings. In addition, there were concerns about the original concept becoming distorted when translating English content into Korean or when Korean cultural characteristics needed to be reflected.

In the case of Italy, Japan, and China, the SID versions were developed to enhance the clinical use of the ICF rehabilitation set. The ICF Generic-30 set (rehabilitation set) is a useful tool for assessing and reporting disabilities and functioning for continued treatment of clinical patients [15]. However, it is difficult to use in clinical settings because it has too many categorized items. Consequently, the ICF core set was developed, and there have been various efforts to use it in a wide range of health statuses and specific environments. In addition, the SID versions were also developed because the ICF definitions were difficult to understand. The advantages of the SID version include the fact that function-related data could be compared and shared between countries for international projects. Further, it is a tool that allows clinicians to easily understand the concepts in clinical settings and make assessments accordingly. Moreover, many countries have already completed SID development, or the developments are in progress. Accordingly, the present study also developed the SID version described in the report to promote international cooperation for the activation of the ICF and to enable its use in clinical settings.

The present study can be differentiated from the other studies in that it was the first study in Korea to develop a Korean version of SIDs for the ICD-11 Chapter V generic functioning domains. Furthermore, existing studies on SID development developed a version of SIDs for 30 rehabilitation sets. The present study expanded on the 30 rehabilitation sets and also added ICD-11 Chapter V items (47 items). WHODAS 2.0 and MDS brief versions comprising items from ICD-11 Chapter V are based on self-reporting by the user [16]. Conversely, the biggest characteristic of SIDs is that the results are based on the determination (assessment) by rehabilitation specialists in clinical practice. Moreover, rehabilitation specialists could complementarily use SIDs for “subjective reporting” and “objective assessment.”

Therefore, the findings of the present study could be used broadly in the field when ICD-11 is adopted for use in Korean clinical settings. Moreover, the accumulation of a significant volume of data regarding rehabilitation patients would enable international comparisons.

For actual clinical use of ICD-11 Chapter V, additional efforts are needed, such as coding and insurance fee development based on the development of a rating scale. Once such a tool is developed for clinical use, both the assessment in a single field and the assessment of overall function will become easier. Moreover, the tool development underwent a consensus-building process involving various multidisciplinary clinicians. Therefore, the tool could also be used as a link between various clinicians in actual clinical settings. The functions could include patient assessment, the detection of functional changes in patients, and the sharing of information regarding patient functioning. Furthermore, if the same reference guidelines are available, then it offers the advantage of enabling mutual assessment of a single patient. Therefore, Korea also needs to develop a manual that includes a rating scale.

Italy, for instance, developed SIDs for the ICF Generic-30 set (rehabilitation set) for assessing and reporting disabilities and functioning. A study that applied the SIDs to outpatients in clinical settings was then conducted to examine their convenience of use [15]. In Taiwan, WHODAS has been applied to patients with dementia since 2012, and such a policy is also applicable to people with disabilities [17]. In Korea, ICF has been studied and Korean versions of WHODAS and MDS have been developed for use in the treatment environment, but they are not actively used as in other countries. Therefore, just as in the study from Japan, Korea also has an urgent need to develop a SID rating reference guide and interrater reliability [5]. This way a tool suitable for clinicians in various fields of rehabilitation medicine could be used to assess actual rehabilitation patients. Once the usefulness of the tool in clinical settings is validated, such data could be used as evidence when establishing policies regarding rehabilitation medicine, as well as for actualization of insurance fee policies.

In addition, strengthening of the international network is needed. China developed SIDs for ICF categories and created a multi-stage national consensus process through the cooperation of experts from the Chinese Association of Rehabilitation Medicine and the Chinese Society of Physical Medicine and Rehabilitation. This allowed China to implement the ICF system nationally by improving its clinical utilization and utility. In Italy, an Italian version of SIDs was developed through a multi-stage national consensus process, together with PRM experts in China, to establish a standardized reporting system for functioning in ICF rehabilitation-related fields. Additionally, the development of SIDs has been completed in Japan, Belgium, and the Netherlands [18]. As shown, major decision-makers in rehabilitation medicine from countries outside of Korea are forming ICF meetings and networks to share their research findings and usage experience.

There is also a need to build a stronger international network with ICF researchers who are actively working abroad. This could help in the sharing of information about the clinical use of ICF for each country and the establishment of a national research conference for accumulating data related to functioning properties. Such international research conferences could be used to compare disabilities and functioning between countries through the sharing of a network with major decision-makers in each country. The conferences could also provide basic data that could be used as evidence when establishing policies in the field of rehabilitation medicine in the Korean healthcare system.

Limitations

The present study did not consider regional representation. The participants in the studies from other countries were selected by considering regional representation. The study from Italy included participants from northern (n = 8), southern (n = 6), and central (n = 5) Italy [4].

All participants in the present study were residents of the national capital region (Seoul and Gyeonggi region; data not shown). Because Korea has a single geographical/cultural characteristic, regional representation was not applied. However, the participants were enrolled from the public and private sectors. This ensured the inclusion of experts from the public sector, private sector and associations.

Conclusions

This was the first study in South Korea to attempt the development of SIDs for the clinical use of ICD-11 Chapter V. The findings of this study could be used in the future as basic data for developing a tool that can be used for assessing disabilities and functioning in the field of rehabilitation medicine. Our findings also add to the literature available for use during international comparisons.

Declarations

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Authors' Contributions

WHK, KYC and HJK conceptualized and designed the study. WHK, JIK, MJK, JAY, HGK and IHK conducted the consensus conference for simple, intuitive descriptions. KYC supervised the development of simple, intuitive descriptions. KYC, HJK, MJK and JAY recruited the participants, collected the data. HGK and IHK interpreted results from the data. WHK, HJK, JIK, KYC, MJK, JAY and IHK drafted the original manuscript and finalized the manuscript. All authors have read and approved the final version of the manuscript.

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Availability of data and materials

The datasets used during this study are available from the corresponding author on reasonable request.

Ethics approval and consent to participate

This study was granted exemption by the Ethics Committee, the Institutional Review Board of the Korea National Rehabilitation Center (IRB NO: NRC-2020-03-025, approved 13th May 2020). As no personal

information was collected, no consent was required.

Consent for publication

Not applicable

Competing Interests

The author(s) declared that there is no conflict of interest.

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Figures

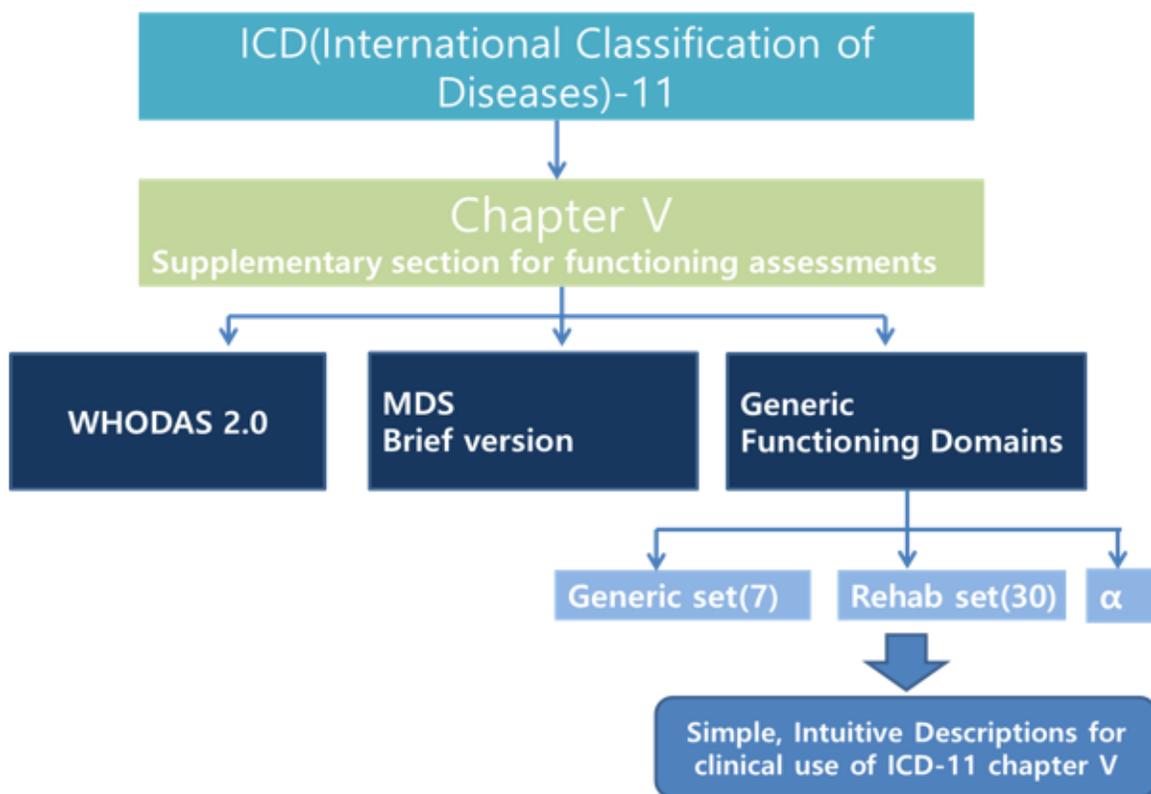


Figure 1

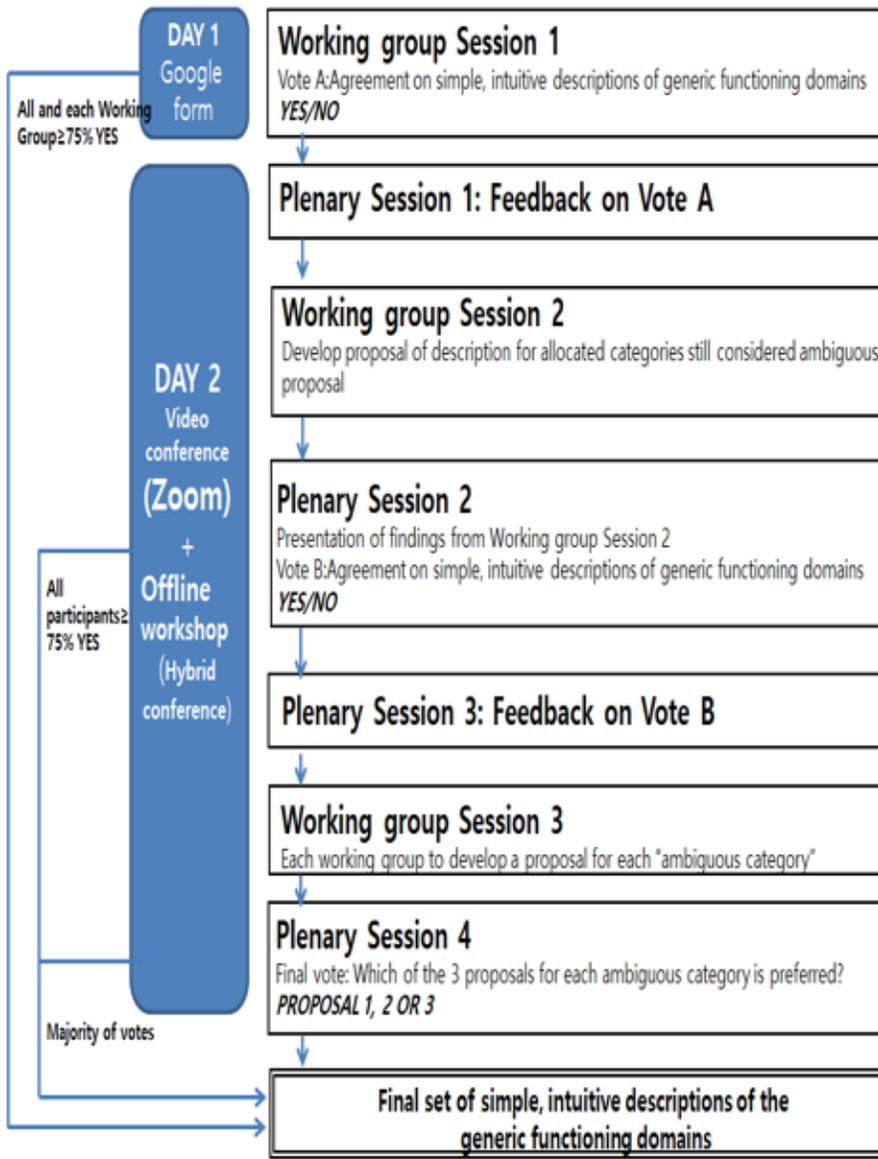


Figure 2

Multi-consensus conference for the development of simple, intuitive descriptions

Supplementary Files

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- [Appendix1.docx](#)