Focus group interview regarding the accessibility of health information for people with disabilities and means of improving this accessibility in the future

Changwoo Shon, PhD
Boyoun Jeon, PhD
Jae Hee Lim, PhD
So Youn Park, MD, PhD
Ye-Rin Lee, MSc
Young-Eun Kim, PhD
Saengryeol Park, PhD
Na-Eun Lee, BSc
In-Hwan Oh, MD, PhD

Abstract
This study concerns the accessibility of health information for people with disabilities. More specifically, by interviewing policy elites who have backgrounds in this area, we seek to obtain their opinions regarding the type of information people with disabilities require, and people with disabilities overall awareness of such information. Based on the information obtained, we also aim to identify methods of improving this accessibility.

A focus group interview was conducted involving policy elites who had previously participated in decision-making processes for health policy. These elites were sourced from the fields of academia, medicine, and government. Content analysis was performed using NVivo 10, which is a computer-assisted/aided qualitative data-analysis software.

The focus-group participants felt that relevant information for people with disabilities is provided in a fragmentary manner through several channels that have relatively low reliability, which creates difficulties for a significant portion of the target recipients. Discussions regarding the type of health information required by people with disabilities yielded the following topic clusters: information regarding health-care providers who specialize in specific disability types and regarding health behaviors for certain lifecycles, and information that helps people with disabilities return to society. Further, the focus group recommended 2 means of providing essential health information to PWDs in the future. As short-term strategies, the participants proposed simplifying the existing, fragmented information channels and the creation of a comprehensive web-based information portal with an associated call center. As a long-term strategy, they proposed the development of smart-device-based information services that are tailored to the needs of individuals.

Efforts to reduce the disparities in health information for people with disabilities are essential for addressing the existing inequality regarding the availability of health information.

Abbreviations: CAQDAS = computer-assisted/aided qualitative data-analysis software, FGI = focus group interview, HIRA = Health Insurance Review and Assessment Service, KAoRM = Korean Academy of Rehabilitation Medicine, NHIS = National Health Insurance Service, NRC = National Rehabilitation Center, PWD = People with disabilities.

Keywords: disability type and lifecycle, health and medical services, health information, persons with disabilities

1. Introduction

The term “health information” has various meanings. In a narrow sense, it means evidence-based information that can improve patient health outcomes. In a broader sense, however, health information relates to the entire body of information existent in the fields of human health maintenance and management, disease-control-related medical disciplines, and life sciences. In this sense, health information for persons with disabilities (PWDs) refers to information and knowledge related to health management and disease treatment that is useful for

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* Department of Urban Society Research, The Seoul Institute. Division of Health Service for the Disabled, National Rehabilitation Center. School of Medicine, Kyunghee University. Department of Preventive Medicine. Department of Medical Education and Humanities, School of Medicine, Kyunghee University. Department of Preventive Medicine, Korea University College of Medicine, Seoul, Korea.

Correspondence: In-Hwan Oh, Department of Preventive Medicine, School of Medicine, Kyunghee University, Seoul 02453, South Korea (e-mail: parenchyme@gmail.com).

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PWDs and their caregivers. This includes web-based materials, audio-visual materials and leaflets, printed matter (books, journals, and booklets), and medical literature.

For PWDs, the accessibility of health information is an issue associated with their “right to health,” and the importance of providing PWDs with adequate health information is widely acknowledged. In this context, promoting PWDs health and wellbeing through appropriate health-information provision has gained increasing importance in recent years. In a previous survey of PWDs, 72% of the respondents reported that health-information services are a primary need; this was followed by exercise-intervention programs, stress-management programs, chronic-disease-management programs, and weight-control programs. Thus, it is of particular importance to provide PWDs, who have pressing needs regarding health information, with reliable, up-to-date health information. Unfortunately, PWDs in Korea remain unable to obtain the information they need.

Policies to guarantee the rights of PWDs in Korea were first developed in 1988 with the creation of a government-operated PWD registration scheme. This scheme specifies 15 types of disabilities, categorized based on certain functions or parts of the body (limbs, brain, vision, hearing, speech, face, kidney, heart, liver, respiratory system, intestinal and urinary tracts, epilepsy, mental retardation, autism, and mental illness). The prevalence of these physical or mental impairments, and their respective grades, are determined by a medical doctor who bases his/her diagnosis on the criteria for disability assessment system. Then, based on the clinical disability certificate awarded by the medical doctor, government officers finally set the PWD a disability grade. People who are listed on the disability-registration system are eligible to receive income support, discounts on medical costs, and/or personal assistance. The registration system is closely related to welfare benefits and, consequently, the decision process is quite strict. For example, in 2017 the number of officially registered PWDs as a percentage of the entire population was 5.39%, which is relatively low when compared to other developed countries, such as the UK (11.6%) and the US (19%).

When PWDs are choosing health-related services, health information (e.g., quality and cost), is required. However, information imbalances between suppliers and consumers are common in the domains of health and medical services, meaning evaluating the quality of the services provided can be difficult. As a result of such difficulties assessing the quality of services, as well as economic barriers, PWDs are, unfortunately, often likely to make choices that are unfavorable over the long-term. In other words, there is a pressing need for research on methods of providing the appropriate information and services required by PWDs. In Korea, however, the only studies that have been conducted in this field generally focused on the fact that PWDs largely have limited access to information; studies of the type of health information required by such individuals, as well as the accessibility of such information, are rare.

The purpose of the present study is to interview policy elites who have backgrounds in decision-making in this field in order to determine their opinions regarding PWDs awareness of and access to necessary health information. Then, based on these policy elites responses, we aim to propose methods of enhancing the accessibility of health information for PWDs.

The specific objectives of this study are as follows:
1) to identify the current status of health information accessibility and the scope of the health information available for PWDs in Korea, as perceived by policy elites associated with this field; and
2) to propose short- and mid/long-term strategies for improving PWDs access to relevant health information.

2. Materials and methods

2.1. Study design and interview questions

The purpose of this study was to determine the types of health information required by PWDs, to identify the reasons certain health information is not accessible for this population, and to derive efficient measures of providing PWDs with the health-information services they require. To achieve these aims, we conducted a focus group interview (FGI) with policy elites who had played critical roles in the creation of PWD-related health policies. In particular, we analyzed the interviewees perceptions of the primary factors influencing this issue. Considering our aim and the nature of this study, which seeks an unprecedented degree of health information regarding PWDs, we decided to adopt a qualitative research methodology. In this study, due to the lack of theories and research on the accessibility of information of the disabled, the inductive methodology, the evidence theory, was adopted to analyze and conceptualize the interview content. Specifically, we wanted to transcend simple responses to itemized questions, and instead actively listen to the interviewees opinions and experiences, based on achieving a consensus between the researchers and interviewees. It was important to identify the policy elites views and experiences regarding health information, particularly in regard to medical services, for which there is a relatively large amount of information asymmetry. Following the process applied in previous FGI studies involving health-care professionals, in the present study we developed questions regarding the problems the policy elites had perceived and the strategies they had developed based on their personal experiences.

We formulated questions concerning the current methods of obtaining health information and the interviewees experiences relating to this, the most important types of information, methods of appropriately providing information, types of service operators, and means of improving the accessibility of health information (Table 1).

Prior to the FGI, we conducted a preliminary interview involving 2 experts. One of these experts was a rehabilitation specialist who had a great deal of PWD-related research experience, and the other was an expert in PWD-related policies, and was recommended by the National Rehabilitation Center (NRC) and the Korean Academy of Rehabilitation Medicine (KARoRM). Based on the data obtained through this pilot interview, we corrected and complemented the contents of the questions and created a list of final interviewees. We then conducted the FGI on October 24, 2014 at a conference room of the public building in Seoul, which is the accessible place for all participants. An FGI approach is particularly useful for exploring each experts knowledge and experiences, and can be used to examine not only experts beliefs, but also why they hold these beliefs. For the present research, the experts from various fields congregated and conducted the FGI over a period of 2.5 hours. This duration was set based on the recommendations of a previous study. Because the effectiveness of the facilitator is the key to a successful focus group interview, Dr. Oh, an expert in the field of qualitative research, was invited to facilitate the FGI. The FGI was conducted for approximately 2.5 hours. This duration was set based on the recommendations of a previous study.
on disability health research, was the main moderator, and Dr. Shon, who had extensive experience in qualitative research, played the role of assistant moderator.

2.2. Subjects (interviewees)

Based on the recommendation of a previous study (that, in FGIs, small groups of 6 to 12 persons are effective for facilitating a comfortable exchange of opinions), we recruited 7 policy elites (representing academia, medicine, and government). These policy elites were persons who had played key roles in the development processes of policies for PWDs. To select medical policy elites, we focused on rehabilitation specialists who had long experience (over 10 years) in general hospitals and who were recommended by K AoRMs policy committee. For policy elites from the government, we recruited persons who were in charge of PWD-related agencies affiliated with the Ministry of Health and Welfare. Finally, elites from academia comprised professors of social welfare, public health, or preventive medicine who were recommended by the NRC. Since, in Korea, the number of policy elites in the field of disability policy is limited, the recommendations we received from health and welfare ministry officials and health and welfare policy experts, and even from the 2 preliminary interviewees, largely converged on our 7 interviewees. Interview requests were made over the phone to confirm participation, and all participants agreed to attend the FGI. From the beginning of the meeting until the end, there was no interference or observation from anyone but the participants (3 females and 4 males) and researchers (2 females and 2 males). Table 2 shows the general characteristics of the interviewees.

2.3. Analysis process

After the FGI, the interview data were reorganized based on the categories used when formulating the questions, and content analysis of the interview transcript was then performed. To perform this categorization, we extracted meaningful sentences from the interview transcript and transformed them into statements containing broader concepts. After probing the categorized statements, content analysis was performed using NVivo 10, a computer assisted/aided qualitative-data-analysis software (CAQDAS). Using a CAQDAS improved our time efficiency, as it facilitated optimization of repeated re-categorizations, and enhanced the reliability of the analysis outcomes and the validation of inter-coder reliability. We shared the report with the participants, including the quotations after the study was finished. Table 3 summarizes the research questions, topic clusters, and topics.

2.4. Ethical considerations and reliability validation

All of the participants were informed of the study purpose and process, and also that the recorded content would be confidential and would only be used for the present study’s analysis. We also informed the respondents that they had the right to cease giving information and to withdraw from the FGI session at any point during the interview. In order to ensure reliability, we commissioned a professor of public health and qualitative research to re-code the entire text, and verified the inter-coder reliability by measuring kappa values using NVivo 10. Disagreements between the 2 coders were discussed until a consensus was reached. Overall, the kappa value for this study was relatively high (0.71), meaning the results are substantially reliable (in general, a kappa value is considered to have a moderate,
Table 3
Analysis of study results.

| Category | Topic cluster (Problems) | Topics (Problem details) |
|----------|--------------------------|--------------------------|
| Current status of the accessibility of health information for PWDs | 1.1 Lack of information-acquisition channels after diagnosis of disability | Disability diagnoses are performed in departments other than the department of rehabilitation medicine |
| | 1.2 Limited, relatively unreliable information | Even medical professionals lack understanding of the information required by PWDs |
| | 1.3 Increasing use of the Internet and smart devices | Low treatment incentives for doctors due to the low fee schedule |
| Essential health information for PWDs | 2.1 Health information needed | Quality evaluation of information is difficult, as a result of information asymmetry in public health systems |
| | 3.1 Designation of a health-information provider | There is no consistent information-delivery channel |
| | 3.2 One-stop provision of reliable information services | Accessibility can be improved via smart devices |
| | 3.3 Smart-device-based personalized delivery of reliable information | The younger the PWDs, the higher their ability to access information |

PWD = people with disabilities.

3. Results

3.1. Current status of PWDs’ accessibility to health information

3.1.1. Absence of information acquisition channels after the disability determination. Most FGI participants felt that most health-care facilities and medical professionals do not have a sufficient understanding of the conditions experienced by PWDs; this means that, after PWDs initial diagnosis in hospital, such facilities and professionals cannot adequately provide PWDs with essential information regarding health-care services and/or assistive devices. In many cases, patients visit other health-care facilities to meet specialists in rehabilitation medicine and to obtain information regarding necessary assistive devices and other practical advice. However, even if PWDs meet with a rehabilitation specialist, the information the specialist provides regarding medical services can be fragmentary. Thus, there are few reliable channels through which PWDs can obtain comprehensive information.

“(Disabilities) are regarded only as objects, the fact itself, and nothing else. No one gives patients explanations about the prognoses of their disabilities, or the patients present status regarding living with those disabilities” (A).

In particular, the participants felt that the most common cause of information deficit during the initial stage of disability diagnosis is a lack of understanding among medical professionals. They also mentioned that medical professionals may have a lower incentive to provide more information to PWDs, as these cases generally involve a relatively low medical fee.

Hospitals do not even have pamphlets or booklets for them [PWDs], [ . . . ] [Hospitals] do absolutely nothing. In many cases, ophthalmologists do not give any information after diagnosis. They usually can not inform the patients of the bigger problems ahead because they have no training in that regard; however, sometimes it is because they are not interested at all, because such cases are relatively low-paying (C).

3.1.2. Sporadic information service of less reliable information. Information asymmetry in health-care services makes it difficult to evaluate the adequacy of the information. In Korea, the health-information channels that provide PWD-specific information are somewhat inconsistent. For these reasons, the policy elites considered it practically impossible for PWDs to obtain adequate information in a timely manner.

“From the standpoint of PWDs, various types of information should be made available in a manner that allows such people to
conveniently obtain them. In fact, information is the most pressing need of PWDs, but there is no place from which they can obtain well-structured information pertaining to their individual needs” (D).

Along with the sporadic and fragmentary nature of the information provided through these channels, the elites also questioned the quality of the information. Some respondents mentioned that certain information-service providers do not consider the fact that their services are accessed not only by PWDs themselves, but also by their caregivers. Moreover, there is an inequality among PWDs in relation to their ability to access the information.

“I checked some information websites for PWDs, and found that the information offered was low-quality and fragmentary” (A). “Only PWDs with high information levels can quickly access information and notifications regarding benefits and grants” (G).

3.1.3. Increased utilization of the Internet and smart devices. The FGI participants were aware that, as a result of the increasing use of smart devices, the information gap mentioned above has been decreasing to some extent. However, they highlighted that the use of such devices is largely limited to persons with relatively mild disabilities or relatively young PWDs. Older PWDs generally have a lack of such skills, meaning they are likely to be less informed.

“I guess age plays an important role in information acquisition. Younger generations regularly use the Internet or smart devices, but older people have insufficient internet literacy ...” (D).

3.2. Essential elements of health information for PWDs

3.2.1. Health information needed for PWDs from policy elites’ standpoints. The most important information for patients, both PWDs and non-PWDs, is reliable details regarding health-care facilities and medical professionals who specialize in particular conditions or disorders. Such information could represent core data that enables PWDs to adequately contact and obtain care from the most appropriate health-care providers for their conditions. At present, however, there is no central portal operating as an information channel through which PWDs and their caregivers can obtain objective information regarding health-care facilities and medical professionals. The Department of Health and Welfare should provide PWDs and their caregivers with information services that provide details on health-care facilities in terms of the types of disability treated, and should ensure that these services can be accessed using the Internet, smart devices, pamphlets, or booklets.

“I think it is necessary to offer information regarding specialized hospitals and clinics in terms of disability type, and to do the same for health-management facilities” (B).

Reliable information regarding assistive devices. After increased details regarding health-care facilities, the second most important type of information was details regarding assistive devices. The interviewees awarded high priority to information services regarding assistive devices.

“It is not uncommon for PWDs to lack official assistance when obtaining assistive devices and other supportive measures because they do not know whether they are eligible or how to apply for such assistance” (B).

Reliable information regarding assistive devices is especially important for PDWs, because there are various organizations and points of sale through which such devices are provided or sold. The FGI participants predicted that problems such as double benefits or illegal brokerage would continue unless financial aids for assistive devices were administered by a centralized system. “[There has been] unpleasant news regarding hearing aids and growth-promoting drugs [...] I think such harmful events will only cease if an accredited organization takes charge of all relevant affairs” (A).

Health information and health behaviors pertaining to certain disability types and lifecycles. Medical professionals among the FGI participants felt that most PWDs are not receiving adequate health-care information specific to their respective disabilities. In particular, they mentioned that there is a low level of information regarding preventable conditions and diseases PWDs are likely to develop as they age. In particular, they felt that PWDs and their caregivers strongly need information specific to the disability type in question, including further details based on patients ages and disability severity.

“As mentioned earlier, informing PWDs of lifecycle-specific health behaviors—I agree that this is exactly what is needed” (F).

Information regarding returning to society, despite existing health issues. Determinants of health for PWDs are complex, and are based on interactions among various factors, including not only clinical conditions associated with their disabilities, but also social determinants of health, such as educational attainment, employment type, and income level. In particular, the FGI participants emphasized that it is necessary to provide PWDs with comprehensive information regarding social factors that can assist their return to society.

When setting the scope of the health information provided, it should be borne in mind that this is not a simple health matter; other factors that are closely associated with health status should be considered, such as education and employment [ . . . ]. Once disabilities are diagnosed, secondary factors such as means of returning to society should be considered; this includes, most importantly, employment, and education (C).

3.3. Stepwise approach to measures for improving PWDs’ accessibility to health information

3.3.1. Designation of a health-information provider (short-term approach). The data obtained from the interviews indicated that the main cause of inefficient health-information services is the sporadic and fragmentary availability of non-validated information. In this regard, the participants mentioned the necessity of a single resource that offers comprehensive information services in a centralized manner. More specifically, they felt that it is necessary to designate an organization that gathers and compiles health information specific to PWDs and that offers the entire body of information in a convenient manner. They proposed that the NRC, because of its high recognition value and deep understanding of disabilities and PWDs, should perform such centralized operations and management of information services.

Standardizing health-information items and establishing and managing databases should be performed by an organization that has knowledge of all types of disabilities. From the standpoint of knowledge and experience of disability-specific features, the NRC is the most appropriate institution in this regard, because its operations concern administration of disability-related health-care facilities and products, including rehabilitation centers and assistive devices (B).

Meanwhile, regarding the organization that should be commissioned to perform data standardization and database creation, the policy elites unanimously recommended the
National Health Insurance Service (NHIS) or the Health Insurance Review and Assessment Service (HIRA), which are organizations that already manage nationwide health-insurance data.

If data concerning health-care-service utilization are to be prioritized, the NHIS or the HIRA would be the best-suited candidate for such a one-stop-shop function (a centralized, comprehensive resource). However, if neither of these organizations are prepared to assume such responsibility, the NRC could play a principal role in data standardization and database creation, in collaboration with the NHIS or HIRA, which would perform data acquisition and provision (E).

3.3.2. One-stop provision of reliable information services (Short-term approach). Information services via a web-based portal. Most of the policy elites who participated in the FGI felt that the creation of an Internet-based portal for information services is the most effective alternative to the current piecemeal information-service patterns. In particular, considering the fact that disability-related information services are accessed more frequently by caregivers than by PWDs themselves, the policy elites unanimously advocated the creation of a web-based information portal managed by a publicly recognized organization. Moreover, they generally perceived the installation of an interactive communication feature that enables inter-user communication as a necessity. “PWDs may build a community by generating and exchanging their own data via interactive features; they could share their experiences of using health-care facilities, discussing facilities performance and service quality . . . . “ (G).

Call-center-based information services. While a web-based information portal would be very useful for Internet-literate PWDs (generally younger age groups) in terms of improving the accessibility of information, it may not be of great use to PWDs or caregivers who have no or insufficient Internet skills (generally older age groups). To overcome this problem, the policy elites advocated operating a call center in conjunction with the Internet portal, which would allow all PWDs and caregivers to access all of the information offered in the portal. “The additional operation of a call center that offers the information contained in the portal as well as counseling would be ideal” (D).

3.3.3. Smart device-based personalized Information services (mid-and long term approach). Along with portal-based information provision, the FGI participants supported the use of smartphone apps or cellphone short message service (SMS) to customize health-information services, particularly as smartphone penetration is increasing among PWDs. In particular, they unanimously advocated a centralized comprehensive information system for each disability type, feeling that this would represent the most efficient information service. However, such customized service requires the establishment of databases for all disability categories; thus, this option requires a longer start-up period, but represents a mid-to long-term project. “For example, patients who have a spinal cord injury commonly develop cystitis within approximately 3 years. In cases involving such predictable pathological patterns, SMS messaging can be used to remind the individuals concerned of the need for timely check-ups, such as renal scans” (G).

4. Discussion

Access to information can be considered a right of all people living in the information society. In reality, however, there is a disparity among members of society regarding information accessibility, and this is termed an “unmet information need” or “information gap.” This also applies to the accessibility of health information, and previous studies have shown that, for PWDs, the higher the accessibility of health-related information, the higher the health status. The present study aimed to identify adequate measures of enhancing the accessibility and quality of health-information that is specific to PWDs. Specifically, a qualitative approach was adopted to explore this uncharted domain of health information required by PWDs and to establish the levels of accessibility and quality regarding existing information services. To achieve this, we conducted an FGI involving policy elites from the fields of academia, medicine, and government. The study used Grounded Theory to analyze the interviews and developed a model that consists of 4 major themes:

1. “current status of the accessibility of health information for PWDs,”
2. “lack of information-acquisition channels after diagnosis of disability,”
3. “limited, relatively unreliable information,” and
4. “increasing use of the Internet and smart devices.”

Analysis of the FGI data regarding the first research agenda, “current status of the accessibility of health information for PWDs,” yielded 3 topic clusters: “lack of information-acquisition channels after diagnosis of disability,” “limited, relatively unreliable information,” and “increasing use of the Internet and smart devices.” The policy elites most common perception regarding the accessibility of health information was that, after diagnosis of a disability, there is an absence of information-acquisition channels through which PWDs can learn where they can receive treatment, where assistive devices can be purchased, and means of managing their conditions. As the diagnosis of a disability is performed by a medical doctor and is based on the government disability-registration system, the timely administration and dissemination of appropriate information at this stage would be useful and cost-effective for PWDs. In fact, such problems are not limited to PWDs, which reflects the inadequacies of the current health-care-delivery system in Korea. For example, after discharge from hospital patients and caregivers are forced to make independent decisions regarding where to go to receive further treatment. In contrast, in Medicare, the US national health-care system, a discharge plan is established by the responsible case manager at the time of discharge, and each patient is informed of his/her next destination. In Korea, at least for PWDs, a system similar to this case-management approach must be implemented; this system could provide information such as where reliable assistive devices can be purchased or how to apply for financial aid.

The next problem mentioned was indiscriminative information provision for PWDs. The FGI participants viewed increasing Internet and smartphone penetration as a positive development, as this has improved the accessibility of health information for young PWDs and/or their caregivers. However, it is likely that older PWDs and caregivers continue to have limited access to such information services. Considering previous study findings that, among PWDs compared to non-PWDs, the higher the age, the lower the Internet literacy or computer penetration, this indicates that the accessibility of health information is likely to be particularly low for older PWDs.
The second research agenda, regarding the “essential health information for PWDs,” was discussed based on the perspectives of the policy elites. As there is currently no established consensus regarding the concept and scope of PWD-specific health information, the discussion primarily focused on the importance of providing PWDs with information that is important for their unique conditions. Analysis of the discussed contents yielded 4 areas of information needs: “information regarding health-care facilities that specialize in certain types of disabilities,” “reliable information regarding assistive devices,” “health information and health behaviors pertaining to certain disability types and lifecycles,” and “information regarding returning to society, despite existing health issues.” In particular, the interviewees prioritized providing PWDs with lists of health-care facilities that supply services for certain disability categories; this is because information needs regarding health-care providers and assistive-device providers differ depending on disability type. Additionally, centralized, reliable information regarding assistive devices was also considered to be an important area of health information. In Korea, there are currently 9 different PWD-related assistive-device support programs implemented across 6 different departments (Ministry of Health and Welfare; Ministry of Science, ICT and Future Planning; Ministry of Employment and Labor; Ministry of Patriots and Veterans Affairs; and Ministry of Education); this often causes the creation of segmental or overlapping grants.[23]

As a result, an increasing number of PWDs are being cheated by fraudulent manufacturers who receive government support funding and sell substandard products. Considering this situation, the policy elites advocated providing lists of reliable assistive-device producers; this is similar to a recommendation made in a previous study, which highlighted the need for assistive-product-certification system to improve consumer safety and convenience.[24]

Among the interviewees, all of the medical professionals felt that providing information regarding health care and health behaviors in terms of specific disability types and lifecycles is of vital importance. Previous studies have overlooked the age-dependent differences among PWDs and, as a result, many PWDs do not fully profit from the existing services provided.[25]

Furthermore, besides seeking to improve PWDs health and functional conditions by providing them with health information that is adapted to their respective stages of the lifecycle, the ultimate goal of such information services is to restore PWDs social roles. Social support that improves PWDs ability to play roles as members of society has been found to exert a positive influence on their accessing of such information.[26]

Regarding the third research agenda, “stepwise approach to measures for improving the accessibility of health information for PWDs,” 3 progressive topic clusters were identified: “designation of a health-information provider,” “single resource providing reliable information services,” and “smart-device-based personalized delivery of reliable information.” The policy elites felt that centralizing information services would enhance the consistency and efficiency of the health information provided to PWDs. Assigning a government agency that has existing authority and confidence regarding disability-related affairs the responsibility to act on behalf of PWDs can be expected to solve the principal-agent problem that is likely to arise from information asymmetry.

Under the second subject cluster, “one-stop provision of reliable information services,” 2 topics were derived: “information services via a web-based portal” and “call-center information services.” Considering that, in 2012, 83.4% of PWDs used PCs to obtain information, and that there is not much difference in the Internet utilization rate between the general population and PWDs (78.7% and 55.5%, respectively), information delivery to PWDs and caregivers via a web-based portal appears possible.[27]

Considering the current limited information provision, the operation of an information portal centralizing all disability-related information services is expected to drastically increase PWDs accessing of health information. A relevant Internet site was pointed out as a delivery channel of useful materials.[11] Further, the FGI participants suggested the creation of a call center as an additional centralized information channel, which would serve to increase the accessibility of health information among PWDs with low Internet literacy. The interviewees felt that the provision of self-contained comprehensive information services via a web-based portal and call center could be rapidly implemented upon completion of the integration and centralization of various health-information services.

As a mid- and long-term improvement strategy, participants suggested utilizing smart devices for personalized health-information delivery. Once comprehensive databases for all disability categories are established, it will be possible, using these databases, to deliver health information that is personalized in terms of lifecycle and disability type through smartphone apps or cell phone messaging.

The present study is meaningful in that it describes the result of a discussion among policy elites who are knowledgeable regarding the provision of information to PWDs. However, there were, nevertheless, some limitations. The results presented in this study are not the opinions of PWDs and their caregivers, but the opinions of clinical and policy specialists; thus, the scope of the health information mentioned and the provision channels suggested may differ from that which PWDs actually desire and need. Of course, a survey of policy-makers can reflect various opinions regarding PWDs and their status; in order to reflect PWDs opinions, we included among our FGI participants an policy elite who had physical disabilities. Additionally, we attached great importance to converging the participants direct and indirect influence on pertinent policies and system reforms.[28]

**5. Conclusion**

Based on the hypothesis that increasing the accessibility of appropriate health information will improve the health status and quality of life of PWDs, we conducted an FGI featuring policy elites, seeking to determine their knowledge and perceptions of the current situation. This discussion particularly focused on accessibility level, the scope of the health information that should be offered, and possible measures for improving PWDs access to health information. Special emphasis was placed on efficient means of increasing the accessibility of information for PWDs. In particular, the policy elites agreed that there was a need to create a legal and institutional system that can ensure the provision of reliable information, as well as equal access to such information. By limiting the FGI participants to policy elites, the discourse in this study regarding the accessibility of health information for PWDs did not focus on the area of PWDs health-care demands. In addition to the present study, which targeted policy elites, we hope that future related research will seek to reflect the views in this regard of people with various types of disabilities.
Author contributions

Conceptualization: Changwoo Shon, Boyoung Jeon, So Youn Park, In-Hwan Oh.
Data curation: Jae Hee Lim.
Formal analysis: Boyoung Jeon, Jae Hee Lim, Ye-Rin Lee, Young-Eun Kim.
Investigation: Boyoung Jeon, Young-Eun Kim, In-Hwan Oh.
Methodology: Boyoung Jeon, Young-Eun Kim, In-Hwan Oh.
Software: Ye-Rin Lee.
Supervision: Changwoo Shon, In-Hwan Oh.
Writing – original draft: Changwoo Shon, Boyoung Jeon, Jae Hee Lim, Ye-Rin Lee, Young-Eun Kim, In-Hwan Oh.
Writing – review & editing: Saengryeol Park, Na-Eun Lee.

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