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RESEARCH ARTICLE

Comparison of the Regulations Used in the Assessment of Vocational Permanent Disability Rates and Disability Rates

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Abstract:

A significant part of the regulations on health and health conditions classification in our country has lost currency. This study aims to compare vocational permanent disability rates and disability rates recalculated according to guidelines for disability rates of the patients who applied to the Department of Forensic Medicine between 2015-2016 with disability rate determination request, to emphasize scale and guideline deficiencies in the scope of present regulations, to evaluate problems and determine solutions. In this study, 94 disabilities were observed in 49 cases with detected vocational disability rates, with orthopedic disabilities prevailing. No significant difference was detected among the scales in pelvis-lower extremity, head, face, spine, internal organ and ear concerning disabilities (p:0.241, 0.117, 0.083, 0.285, ~1, 0.317, respectively). There was a significant difference among the ratios calculated with two scales in the upper extremity and eye disabilities (p:0.002, 0.034, respectively). In conclusion, it was evaluated that the formation of a single guideline -functional and updateable, in line with current medical improvements, meeting international standards- to be used by all institutions is required since the use of different regulations, scales and guidelines cause medical and legal problems and arrangements in age and profession can be made in the regulations and guidelines used in disability ratio determination and guidelines used in disability ratio calculation in appreciation-requiring conditions can be used for calculating vocational permanent disability rates.

Keywords: Forensic medicine, disability ratio, vocational permanent disability ratio, appreciation ratio.

Öz:

Ülkemizde sağlık ve sağlık ile ilgili durumların sınıflandırılmasına yönelik yapılan düzenlemelerin önemli bir kısmı güncelliğini yitirmiştir. Bu çalışmada; Adli Tıp Anabilim Dalına 2015-2016 yılları arasında maluliyet oranı belirlenmesi istemi ile başvuran olguların "Meslekte Kazanma Gücü Kayıp Oranı Tespit Cetvelleri" kullanılarak saptanmış meslekte kazanma gücü kayıp oranları ile engel oranı belirlenmesinde kullanılan cetvel ve kılavuzlara göre yeniden hesaplanan engel oranlarının karşılaştırılması, yürürlükte olan yönetmelik kapsamındaki cetvel ve kılavuzların eksikliklerinin vurgulanması, karşılaşılan sorunların değerlendirilmesi ve çözüm yollarının tespiti amaçlanmıştır. Meslekte kazanma gücü kayıp oranı saptanan 49 olguda toplam 94 arıza olduğu ve ortopedik arızaların ön plana çıktığı görüldü. Arıza bazında karşılaştırmada pelvis-alt ekstremite, baş, yüz, omurga, iç organ ve kulak arızalarında cetveller arasında anlamlı farklılık saptanmadı (sırasıyla; p:0.241, 0.117, 0.083, 0.285, ~1, 0.317). Üst ekstremite ve göz arızalarında ise iki cetvel arasında hesaplanan oranlar arasında anlamlı farklılık saptandı (sırasıyla; p:0.002, 0.034). Sonuç olarak birçok farklı yönetmelik, cetvel ve kılavuzun kullanımı tıbbi ve hukuki zorluklara neden olduğundan tüm kurumların kullanabileceği -günümüz tıp gelişimine uygun, uluslararası standartlarda, işlevsel ve güncellenebilir- tek bir kılavuzun oluşturulması gerektiği, bu kapsamda engel oranı belirlenmesinde kullanılan yönetmelik ve kılavuzlara, yaş ve meslek gibi düzenlemelerin yapılabileceği ve bu süreçte meslekte kazanma gücü kayıp oranı hesaplamasında takdir gereksinimi olduğu durumlarda engel oranı hesaplamasında kullanılan kılavuzlardan faydalanılabileceği değerlendirilmiştir.

Anahtar Kelimeler: Adli tıp, arıza, engel oranı, meslekte kazanma gücü kaybı oranı, takdir oranı.

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This article is English version of the manuscript entitled as "Meslekte Kazanma Gücü Kaybı Oranı ve Engel Oranı Değerlendirmesinde Kullanılan Yönetmeliklerin Karşılaştırılması"

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1. Introduction

"Maluliyet", which is the word used for disability is originated from the Arabic rooted word "illet" meaning insecure, disease and disability (1). The concept of disability is defined as the partial or complete loss of an individual's capacity to work due to an external effect, disease or accident in legal terminology (2). Vocational permanent disability is the proportional equal to permanent incapacities of an insurance holder due to work accidents and occupational diseases (3).

"Capacity to Work and Vocational Permanent Disability Rates Detection Operations Regulations" and attached "Vocational Permanent Disability Rates Scales" (VPDRS), including a total of five scales, are used to calculate "vocational permanent disability rate." 4/a and 4/b insurance holder -detected to have minimum 10% decreased vocational permanent disability rate by the Institution Health Board based on the reports given by health boards of health service providers authorized by Social Security Institution- is eligible for temporary incapacity benefit and permanent incapacity income due to the disease and disabilities formed due to work accident or occupational disease. In case of any objection against Institution Health Board reports, the disease and disabilities of the insurance holder are re-evaluated by Social Security High Health Board and concluded. Although this resolution is binding, the insurance holder can object to the Labour Courts or Civil Courts of First Instance in case of any loss of right and Forensic Medicine 3rd Specialized Board or Faculties of Medicine Forensic Medicine Department Branches determined as an expert by legal authorities issue report on the subject. In case of any contradiction among the reports, the opinion of the Forensic Medicine Board Supreme Board is asked for the final decision.

"Disability Detection Operations Regulations" are used to determine disability conditions. In case the Institution Health Board detects that the 4/a and 4/b insurance holder lost at least 60% of working capacity or at least 60% of vocational permanent disability rate due to work accident-occupational disease according to the Appendix-1 Disease List or in case the Institution Health Board detected that 4/c insurance holder lost at least 60% of working capacity or lost profit loss rate in the profession. Thus, the duties cannot be performed (based on health conditions stated in "Turkish Armed Forces Health Ability Regulations" for military and civilian personnel working in Turkish Armed Forces and men obliged to perform military service, "Police Department Health Conditions Regulations" for Ministry of Internal Affairs General Directorate of Security, "health conditions stated in the Regulations on the Application of Private Security Services Law" for the security personnel working under Private Security Services Law and Public Services Law No 657 and "Regulations on Types and Degrees of Disabilities on Duty" in case of disability on duty), the insurance holder is regarded as disabled (4). In case of an objection against the Institution Health Boards' decision, a resolution is provided by Social Security High Health Board and although this decision is binding, Forensic Medicine 3rd Specialization Board is asked for an opinion in case the insurance holder appeals to judicial authorities (5).

While "Capacity to Work and Vocational Permanent Disability Rates Detection Operations Regulations" with reference to the provisions of Turkish Code of Obligations Article No 15 were used for traffic accidents before the change performed in Article No 90 of Highway Traffic Law No 2918 on 14.04.2016, "Regulations on Health Board Reports to be Issued for the Disabled" was started to be used for the reports to be issued within the concept of permanent disability guarantee of "Highway Motor Vehicles Compulsory Liability Insurance General Conditions" coming into force on 01.06.2015 with the change performed. To resolve the date conflict between the Regulations and General Conditions, Supreme Court 17th Civil Chamber decided to use General Conditions for the traffic accidents occurring after it comes into force on "01.06.2015". Finally, "Regulations on Health Board Reports to be Issued for the Disabled" were abolished on 20.02.2019 and "Regulations on Disability Evaluation for Adults" and "Regulations on the Evaluation of Special Needs of Children" came into force and the references to the Regulations on the Health Board Reports to be Issued for the Disabled" were considered to be on the new regulations (6-11). Also, a direct reference was made to Regulations on Disability Evaluation for Adults and Regulations on the Evaluation of Special Needs of Children and Highway Motor Vehicles Compulsory Liability Insurance General Conditions issued on the official gazette on 20.03.2020 (12).

The provisions of Article 54 in the Turkish Code of Obligations were referred for other body injuries following torts. Body injuries that may follow torts were specified in this article. While VPDRS was used to determine the loss rate depending on "losses caused by decreased or lost capacity to work" mentioned in the third clause of the article, the reports to be issued for torts (terror, injury and accidents other than traffic accidents) after 20.02.2019 were covered under "Regulations on Disability Evaluation for Adults" and "Regulations on the Evaluation of Special Needs of Children" with the final regulation made on 20.02.2019 (3, 8, 10, 11).

While Disability Rates Scale within "Regulations on Impairment Criterion, Classification and Health Board Reports being Issued for the Disabled" was used to determine the disability rate before 20.02.2019, Disability Rates Area Guidelines for Health Board Reports of Disabled Adults within the scope of "Regulations on Disability Evaluation for Adults" and "Special Need Areas Guidelines" within the scope of "Regulations on the Evaluation of Special Needs of Children" was started to be used. "Disability Rates Scale" and "Disability Rates Area Guidelines for Health Institution Board Reports of Disabled Adults" includes 15 sections grouped based on organ and body systems and Special Needs Area Guidelines includes 23 special need areas. Some changes were made in report formats with the new regulations coming into force and while a single format titled "Health Institution Report for Disabled" was available within the concept of the abolished regulation, separate report formats with the titles "Disability Health Board Report" and "Terror, Accident and Injury Related Situation Reporting Health Board Report" for adults and "Special Need Report" and "Terror, Accident and Injury Related Situation Reporting Health Board Report" for children were defined. The ways the reports for terror, accident and injury situations are going to be issued were explained separately in the related articles of the regulations and it was stated that these reports would be issued when an official writing is demanded by the institutions and the function losses without any causality connection with the related incidence will not be concerned (9-11).

ICD-10 (International Statistical Classification of Diseases and Health-Related Problems) and ICF (International Classification of Functioning, Disability and Health) are among international classification systems that were developed by WHO to develop a common language. ICD-10 was prepared to classify the diagnosis and health condition of the individual, while ICF was prepared to evaluate the health-related functionality and disability and to provide the participation of the individual in life (e.g., social communication, work and education). These two classification systems complement each other, and WHO suggests their use together (13-14). ICD-10 is used to define the health conditions of individuals in our country and scales and guides based on ICF (Disability Rates Scale, Disability Rates Area Guidelines for Health Institution Board Reports of Disabled Adults, Guidelines for Pediatric Special Need Areas) are used to determine the health-related disability rate formed (9-11).

One of the most important scales used to determine disability rate, workforce loss (disability) and material indemnity for traumatic or disease-caused permanent pathologies (Guides to the Evaluation of Permanent Impairment, Sixth Edition by American Medical Association) (15). This guide was first published as the article titled "Guide to Evaluate the Extremities and Spinal Impairment" in the Journal of American Medical Association by American Medical Association in 1958 and was started to be used to calculate the rate of permanent impairments in individuals experiencing measurable medical loss due to trauma or disease in the United States of America. With the additions in years, the sixth edition of the guide was published in 2007 and the ICF model was the basis of the last edition (16).

Although a significant part of the regulations made on the classification of health and health-related conditions has lost its currency, they are still continued to be used. To evaluate health and health-related conditions, it is necessary to form an up-to-date, international, common framework that is easy to understand in medical, legal and social terms. The present study aims to evaluate the reports issued using VPDRS for the cases referring with the request for reports on disability rate, compare the detected disability rates and vocational permanent disability rates by recalculating based on the scales and guides used for disability rate determination, emphasize the deficiencies of the scales and guides within the concept of the regulations in force, evaluate the problems encountered due to these deficiencies and to detect solution ways.

2. Materials And Methods

The reports issued by the SDU Faculty of Medicine Research and Application Hospital Forensic Medicine Department between 2015 and 2016 were retrospectively examined, and the cases with the demand for disability rate determination were included in this study. Disorder data detected through VPDRS for the cases and data acquired after the recalculation of these disorders using the "Disability Rates Scale were compared. Recalculations for disorders were performed according to "Disability Rates Scale" within the scope of "Regulations on Impairment Criterion, Classification and Health Board Reports to be Issued for the Disabled" which was in force when this study was carried out and "Disability Rates Area Guidelines" and "Special Need Areas Guidelines" within the concept of regulations in force were included in this study because of the changes made in regulations on 20.02.2019.

Statistical data examination was made using SPSS 22.00 statistics program. Accordance of variables to normal distribution was checked with the Kolmogorov Smirnov test. Definitive statistics for acquired data were given as mean ± standard deviation, number and percentage. Mann-Whitney U test Wilcoxon Signed-Rank Test, Pearson chi-square test and Fisher's exact chi-square test

were used for data analysis. The significance level was accepted as $p<0.05$.

Ethical Declaration

This study was conducted with 13.04.2017 dated decree (No. 60) of Süleyman Demirel University (SDU) Faculty of Medicine Clinical Researches Ethics Board Directorate.

3. Results

In this study, 78 cases whose reports were demanded to be issued between 2015 and 2016 were included in this study. 60 (76.9%) of the cases were male, and 18 were (23.1%) female and the mean age was 38.78±18.38. The mean age was 39.13±18.35 for males and 41.94±18.82 for females and four cases were under 18 years of age.

It was observed that the report claim was mostly performed by judicial authorities (Commercial Court of First Instance, Civil Court of First Instance, Offices of Chief Public Prosecutor) (n:72, 92.3%) and the private applications constituted 7.7% of all applications (n:6).

When the professions of the cases detected to have permanent fault were examined, it was observed that information on the profession did not exist on present judicial records for 44 of the cases (89.7%) and four (8.1%) out of five private applications were accepted as plain workers, and the other (2.1%) was a woodsman.

Traffic accident was the most common cause for admittance (n:70, 89.7%) and injuries (n:5, 6.4%), medical application mistake (n:2, 2.6%) and work accident (n:1, 1.3%) followed it in order.

Clinics in which consultation was demanded most commonly in the clinical evaluations of the cases were observed as Physical Treatment and Rehabilitation (n:32, 23.4%), Mental Health and Diseases (n:24, 18.3%) and Orthopedics and Traumatology (n:18, 13.7%) and the views of a total of 14 different clinics were taken together with other clinics the consultations were demanded from and the consultations coming from the clinics were responded according to the ICD-10 diagnosis codes detected in the cases.

Disability rate was detected in 49 cases (62.8%) and two of the cases with detected disability were under 18 years of age. In this study, 37 of these cases were male (75.5%) and 12 were female (24.5%). When disability rates were compared according to genders, no statistically significant difference was detected (p:0.700).

A total of 94 disorders were present in cases whose disability rates were determined (n:49). When the distribution of the disorders was examined, it was observed that pelvis and lower extremity disorder (n:37, 39.4%) were detected mostly and upper extremity (n:23, 24.5%), head (n:17, 18.1%), eye (n:6, 6.4%), face (n:4, 4.3%), spine (n:3, 3.2%), internal organ (n:3, 3.2%) and ear disorders (n:!, 1.1%) followed it, respectively.

Disorder rates were re-calculated using the scale and guidelines used for calculating the disability rate. The descriptions in "Disability Rates Scales" and "Disability

Table 1: Estimation distribution in the calculations performed according to the D scale and Disability Rate Scale.

Disorder groups based on D Scale		D scale.		Disability Rates Scale	
		Estimation (%)		Estimation (%)	
	n	present	none	present	none
Pelvis and lower extremity	37	64.9	35.1	0	100
Upper extremity	23	100	0	0	100
Head	17	41.2	58.8	0	100
Eye	6	16.7	83.3	0	100
Face	3	33.3	66.7	0	100
Spine	3	33.3	66.7	0	100
Internal organ	3	0	100	0	100
Ear	1	0	100	0	100
Total*	94	60.6	39.4	0	100

*One person may have multiple disorders.

Rates Area Guidelines" were completely the same for the disorders in cases over 18 years of age and disability rate was detected for two cases under 18 years of age and although disability rate was given in one of these cases, no impairment rate and special needs were detected, one case had post-traumatic stress disorder diagnosis with recovering functionality after treatment, the disability rate was 25% based on "Disability Rates Scale, this definition was equal to "Has special need" definition based on the "Guidelines of Special Need Areas" and this definition was equal to 20-39% disability rate when accordance was searched between this definition and the previous regulation.

It was observed that the closest disorder in the list was determined because 57 out of 94 disorders (60.6%) were milder compared to the disorder mentioned on A scale of the related regulations and making an explanation on the character of the disease, estimation was performed through certain decreases in the "disorder rate for ages of 38-39" detected through D scale. Disability ratio was detected without the estimation need in the recalculation of disorders according to the scales and guidelines used for disease rate calculation. Examining the disorders concerning estimation application, it was applied in all upper extremity disorders while it was applied in 64.9% of pelvis and the lower extremity disorders and 41.2% of head disorders (Table 1). Findings on "disability rates based on the ages of 38-39" detected through D scale on disorder basis and the rates acquired through the recalculation of Disorder Rates Scale are given in Tables 2 and 3.

Table 2: Comparison of rates calculated according to the D scale and "Disability Rates Scale".

Disorder groups based on the D scale		D scale.	Disability Rates Scale	p*
	n	Mean±SD	Mean±SD	
Pelvis and lower extremity	37	12±13.61	10.89±14.74	0.241
Upper extremity	23	12.78±11.70	8±13.44	**<0.002**
Head	17	41.53±24.65	37.59±25.14	<0.117
Eye	6	33±12.83	24.83±9.30	**0.034**
Face	3	14.67±1.15	15.67±1.15	0.083
Spine	3	16±5.19	11.33±2.88	0.285
Internal organ	3	65.67±43.31	51.67±32.53	~1
Ear	1	17	12	0.317

Min: minimum, Max: maximum, Mn: Mean, SD: Standard deviation, *Wilcoxon T-test

Table 3: Comparison of rates calculated with D scale and Disability Rates Scale for the disorders which were applied and not applied estimation according to the D scale.

				D scale.	Disability Rates Scale	p*
			n	Mean±SD	Mean±SD	
According to the D Scale	Estimation is present	Pelvis and lower extremity	24	6.21±4.14	6.04±6.36	0.586
		Upper extremity	23	12.78±11.70	8±13.44	**0.002**
		Head	7	32.29±16.73	30.57±16.40	0.400
		Eye	1	35	22	0.317
		Face	1	16	17	0.317
		Spine	0	-	-	-
		Internal organ	0	-	-	-
		Ear	0	-	-	-
	Estimation is missing	Pelvis and lower extremity	13	22.69±18.22	19.85±20.98	0.272
		Upper extremity	0	-	-	-
		Head	10	42±27.94	42.5±29.65	0.213
		Eye	5	32.60±14.31	25.40±10.28	**0.046**
		Face	2	14	15	0.157
		Spine	2	19	10.5±3.53	0.180
		Internal organ	3	65.67±43.31	51.67±32.53	~1
		Ear	1	17	12	0.317

Mn: Mean, SD: Standard deviation, *Wilcoxon T-test

Temporary incapacity duration was not detected as disability rate was 100% in two out of 49 cases with detected disability rate and permanent incapacity duration was not available in three out of 29 cases without detected disability rate. It was also observed that the scales and guidelines used in disability rate calculation did not cover the temporary incapacity concept.

4. Discussion

In our study, 76.9% of the cases were male and 23.1% were female and 5.1% of 78 cases (n:4) were under 18 years of age and the mean age was 39.13±18.35 for males, and 41.94±18.82 for females, and 89.7% of the cases were admitted to our Forensic Medicine Department for disability rate detection due to traffic accident, 6.4% with injuries, 2.6% with medical application mistake and 1.3% with a work accident. Similar to the sampling of our study, 59.6-74.3% of the cases were male when the gender distribution was checked in studies in which traffic accidents constituted the majority (17-22). As also reported in literature, the high value of this rate was related to that the males in the adult age group use motor vehicles and are present more in professional life.

Two separate regulations came into force for adults and children with the final arrangements and "Special Need Areas Guidelines" was started to be used for the pediatric age group. In "Special Need Areas Guidelines" was formed so that the evaluation for children can be carried out due to the difference of children from adult period due to their development phase, "special need" concept is terminologically used instead of "disability" concept and the special need level of the child is classified without stating disability rate percentage. Since it is necessary to state the disability rate concerning accordance with legislation in the reports issued due to terror, accident and injury, it is converted to percentile band for disability rate as mentioned on the table (Table 4) present in regulations Appendix-3 on the reports (11). Although disability rate was given in one of the cases below 18 years of age with determined impairment rate, disability rate and special need were not detected and the other case had post-traumatic stress disorder with recovering functionality through treatment and the disability rate was 25% according to "Disability Rates Scale" and this definition was equal to "Special need present" definition according to "Special Need Areas Guidelines" and this definition was equal to 20-39% disability rate when accordance to the previous regulation was searched. In this new regulation made for children, it was considered that the stated percentage ranges might cause conflicts and related objections in the calculation of damages in conditions which might constitute the basis of damages.

Table 4: Special Need Areas Guidelines-Table to be used when accordance with legislation is searched.

Special Need Code	Special Need Level	Disability Rate (%)
1	Has special need (HSN)	20-39
2	Low HSN level	40-49
3	Average HSN level	50-59
4	High HSN level	60-69
5	Very high HSN level	70-79
6	Has significant special need (HSSN)	80-89
7	Has special condition need (HSCN)	90-99

With the new regulations coming into force, it is stated that the reports to be issued on terror, other accidents (excluding work accident) and injuries in addition to traffic accident will be issued by boards to be formed by authorized health institutions following the request of the institutions through an official letter (10, 11). It was observed that 92.3% of the report requests came from judicial authorities and 7.7% included private requests. In the study conducted by a Forensic medicine Department, it was reported that most of the cases (86.5%) were private requests and this condition was related to the increase in private damage consultancy firms (21). While the regulations highly decreased the problems in the reporting phase started through government agencies, lack of explanations on the way to be followed in private application conditions was evaluated as a deficiency of these regulations.

Disability rate determination requires a multidisciplinary approach. Based on the disorders in our study, the cases were consulted to 14 different clinics and it was observed on the responses of the related clinics that the disorder diagnoses were performed according to ICD-10 classification. While some of the disorder diagnoses were included in A scale, all of these diagnoses were observed to have their equivalents in the scales and guidelines used for

disability rate calculation. Use of ICD-10 in clinical diagnosis, in accordance with A scale to ICD-10 and other clinics not using this scale make disorder detection harder in the reports of consulted cases issued according to VPDRS.

It is stated in the regulations that in case the disorder causing anatomic or function loss is milder/more severe than the disorder stated in the related A scale in the calculation of vocational permanent disability rate or does not have a complete equivalent, the closest disorder in the list will be determined, and an explanation will be made according to the disorder characteristic and certain rates of decrease/increase will be made through the estimation of "the disorder rate for the ages of 38-39" calculated through D scale (4). However, in the literature, it is reported that different estimation rates are present even in the same sequel and same clinical condition and the conflicts in the reports cause the extension of the legal process and forfeitures (17-19, 21).

While the estimation rate changed between 20.6-35.8% in the studies using VPDRS, it was observed that estimation was applied in 60.6% of the disorders in our study (17-19, 21). Estimation application distribution of disorders was as upper extremity (100%), pelvis and lower extremity (64.9%), head (41.2%) and spine (33.3%). It was evaluated that high estimation application rates arose from the limited scope of the disorder diagnosis in A scale according to the current diagnosis classification system. No explanation was available for the estimation application in the scales and guidelines used for disorder rate calculation, and all disorders diagnosed in our study had a complete equivalent in these scales and guidelines. To our knowledge, although no study comparing the vocational permanent disability rate and the disability rate is available in the literature, the findings of our study suggest that the use of scales and guidelines used in disorder rate calculations was more functional for the provision of standardization in the same sequel and clinical conditions.

A significant difference was not detected among the rates determined according to the scales and guidelines used in the calculation of estimation applied and unapplied pelvis and lower extremity, head, face, spine, internal organ and ear disorders disability rate calculation in our study ($p>0.05$). This condition was evaluated to be caused by the similarity of the rates detected for the evaluation of the anatomic and function losses of both scales in disorder groups without any detected difference. A statistical difference was found among the rates acquired from the scales and guidelines used for the calculation of D scale and disability rate of the upper extremity and eye disorder rates ($p<0.05$, $p<0.05$, respectively). It was observed that estimation was applied in all upper extremity disorders in the calculation based on D scale, and also, a significant difference was not detected among the compared ratios in other disorders excluding upper extremity disorders among the disorders, which were applied estimation ($p>0.05$). Since the upper extremity motor functions cover finer motor skills in the body, they should be more sensitively evaluated compared to the motor functions in other disorders. It was observed that detailed information on all disorders that could be seen in extremities, including joint motion range, was given in the scales used for disability rate calculation. The disability rates could be calculated without the need for estimation application, including fine motor skills. Detection of a significant difference among upper extremity disorder rates in our study could be related to the high estimation application rate in these disorders, wrong evaluation of estimation rate and/or the difference in the values corresponding to these disorders in the scales.

As permanent psychiatric disorders can also form in cases due to experienced traumas, an extensive mental evaluation and diagnosis should also be performed. Psychiatric disorders may both accompany physical disorders or occur as permanent disorders by themselves. While psychiatric disorders were covered in a few places in the head disorders of A scale, they were defined in detail under a separate disorder title in Disorder Rates Scale. In Disorder Rates Area Guideline and Special Need Areas Guidelines, the psychiatric disorder title was covered in more detail based on age and case. Scales and guidelines used in disorder rate calculation in the mental evaluations of the cases were evaluated to be more functional compared to A scale.

To determine the disability rate, workforce loss (disability) and material indemnity in many countries (such as USA, Canada, Australia, South Africa, Holland), the sixth edition of Guides to the Evaluation of Permanent Impairment based on the ICF model is used (15, 16). Although the regulations used for disorder rate determination in our country were based on ICF module, use of regulations, such as "Vocational Permanent Disability Rate Detection Operations Regulations", "Regulations on Types and Degrees of Disabilities on Duty", "Turkish Armed Forces Health Ability Regulations" and "Police Department Health Conditions Regulations" is still continued. It was evaluated that a single guideline covering all occupation groups, meeting international standards and forming a common language for public and legal areas could be formed through regulations, such as occupation and age, in the regulations used for disability rate evaluation.

Limitation of the generalizability of the findings due to the study sampling formed by cases referring to Süleyman Demirel University Faculty of Medicine Forensic Medicine Department between 2015 and 2016 with disability rate determination demand. Being able to pioneer the development of the scales used for the calculation of vocational

permanent disability rate or the formation of new scales because of findings with detected statistical significance in line with the aim constitutes the strength of this study.

Based on the results of our study, it was detected that all estimation applied and unapplied disorders had equivalents in the scales and guidelines used for disability rate calculation and the disorder rates in scale A (Pelvis and lower extremity, head, face, spine, internal organ and ear) apart from upper extremity and eye disorders were similar to the scales used in the disorder rate calculation. With the last regulations made in February 2019, terror, other accidents (excluding work accident) and injuries in addition to the traffic accidents were included in the same regulations and two separate regulations came into force with a new regulation covering individuals under 18 years of age considering the special needs of children. Although these new regulations were regulated in line with current medical applications based on the ICF model, they are not suitable for the calculation of vocational permanent disability rate since they do not cover age and occupational evaluation. On the other hand, regulations in force used to determine vocational permanent disability rates and disability condition are not in line with ICF model. As a result, when it is considered that the use of different regulations, scales and guidelines may cause medical and legal aggrievement in addition to the difficulties in the stages of disorder detection and reporting and the evaluation of the reports, the formation of a single guideline which can be used by all institutions -in line with current medical developments, meeting international standards, functional and updateable- is necessary. Within this concept, it was evaluated that regulations, such as age and occupation, can be made on the regulations and guidelines used to determine disability rate and the guidelines used to calculate disability rate in conditions requiring estimation in the calculation of vocational permanent disability rate could be used within this period.

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