Content Validation Instrument Rating Factors Contributing to Low Back Pain in Sports

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Abstract

This research aims to arrange the assessment instrument to the risk factors of back pain in sports. This research method uses evaluation methods. The research subject is a document. The content validity test used in this study is the expert judgment with the Delphi technique. Validation test uses Content Validity Ratio (CVR) which uses three experts.. The results of the study showed that the items and instrument indicators for assessing the causes of sport injuries on the back showed a high CVR value. The conclusion of the assessment instrument that causes back pain sport injury has high fill validity.

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INTRODUCTION

In some previous decades, the back pain problem has become a serious attention whether in the public or in society healthy organization. The low backpain has the highest level of Disabilities which is related. The result of the first previous analysis conducted by the experts of low back pain such as chronic nonspecific low back pain which develop about 10% people who suffer some forms of the acute low back pain in their life. Many people experience the first episode of low back pain on the end stage of teenager or in the early twenty years old and this episode often come back along the life when people are adult and leads to the chronic condition. The chronic low back pain is a symptom of chronic pain which generally occurs in the area of low back and occurs at least for 3 months. This chronic low back disease is one of the number two in the world so that it can interfere with people's welfare. The prevalence of chronic low back pain on adult people has increased more than 85% in the previous decades and has been increasing dramatically in the older population which affects whether man or woman in every group of ethnic with the significant effects in the functional capacity and work activity. It also can be affected by some psychological factors such as depression or anxiety, inflammation or degenerative, congenital defect, muscle weakness, trauma, fracture, spondilolistesis and scoliosis ((Walker, 2012); (Verma, Yogita; Goyal, 2013); (Castillo & Lieberman, 2015); (Ehrlich, 2003); (Jenkins, 2002); (Gruther et al., 2009); (Korovessis et al., 2005)). But, it is broadly accepted in the literature that in the more than 90% case of back pain is pain such as age, gender, daily postural habit (the time which is spent to watch television, use computer, sit, the position and the quality of sleep), psychosocial factor, the smoker and alcohol consumer, back pain family history, overtraining and the mistake in the sport technique. The overtraining and continual movement repetition can cause degenerative changing in the backbone mainly for the continual flexi movement in the back. Continual weight can cause the worse anatomic and functional damage in the back although those are not too strong. The wrong movement technique which is not fulfil the standard, and the history of sport injury also affects the back pain ((National Institute Of Neurological Disorders and Stroke., n.d.); (Pivotto et al., 2018); (Mirtz & Greene, 2015); (Feldman et al., 2001); (Picavet & Schuit, 2003); (Lionel, 2015); (Wáng et al., 2016); (Foster et al., 2018); ((MoM), 2015); (Elfering et al., 2017); (Noll; Candotti; Vieira; & Loss, 2013); (Candotti et al., 2017); (Noll et al., 2015); (Pivotto et al., 2018); (Rinonapoli et al., 2017); (Ehrlich, 2003); (Green et al., 2016); (Foster et al., 2018); (Arya, 2014); (Anar, 2016)). The symptoms appeared are the memory disorders, the lacks of sensitiveness, bad concentration (grouped as cognitive dysfunction), and sleep disorder (Ehrlich, 2003)

The early observation result is divided into two, they are: (1) analysis result from experts' research, (2) direct observation result on the patient of low back pain. The first analysis result of the previous research conducted by the experts on the patients of low back pain such as like conducted by (Pivotto et al., 2018) develop an instrument as the evaluation of back pain and body posture for adult related to the risk factor of back pain. A research conducted by (Elfering et al., 2017) develop and validate the short, competent, and valid questionnaire for the assessment of the disability related to the low back pain based on electronic feature which can be accessed in tablet computer.A research by (Jacob et al., 2001), decide the reliability and internal consistency of the measurement tools related to the low back pain. A research by (Jacob et al., 2001) gives a comprehensive description about physical function test in the patient of low back pain.

The results of field observation in 2016-2018 at clinic of physical therapy Yogyakarta State University and Jogja Sport Clinic showed that many patients from various background suffered from back pain, especially low back pain which was 80% from all patients in the clinic of physical therapy Yogyakarta State University in 2016-2018. Almost all cases occurred caused by sport injury.

Based on the research result above, the instrument which causes sport injury low back pain is still lack. The result of the research showed that there were still many instruments for the evaluation of the general factor that cause back pain ((Fairbank, 2000);(Brodie et al., 1990); (Bajpai & Bajpai, 2014); (Davidson & Keating, 2002);(Maciel et al., 2009); (Macgermid, 2009)). Therefore, the researcher conducted a research in examining the instrument which caused back pain as a sport injury. This research aims to compose the assessment instrument which causes the back pain as a sport injury so it can be validated by the experts ((Downing, 2003); (Heale & Twycross, 2015); (Taherdoost, 2016)).

METHODS

The method used in this research was evaluation method. The subject in this research was 120, 60 male and 60 female. The content validity test used expert judgement with the Delphi technique evaluates product design from the

assessment instrument which causes the back pain as the sport injury. The experts reviewed the content, construction, and language from every-prototipe. In assessing, the experts used the value scale which covered some certain values, they were: value 1 = inapropriate, value 2 = less appropriate, value 3 = appropriate, value 4 = very appropriate. The data analysis used the CVR formula (Content Validity Ratio) to count the index of result achievement from the assessment of the experts about the content validity.

RESULTS AND DISCUSSION

The data of the assessment result of three experts as shown in Table 1. CVR produced the values ranged from +1 until -1, positive value showed that the half of panellist (SME) assessed the appropriate/essential indicator. The higher of the CVR value from 0, the more "appropriate" and the higher its content validity. From the table 1 above, it was obtained the value of CRV as 0.67 and 1 which showed that the indicator which caused back pain used had already fulfilled the good content validity.

Table 1. Assessment result experts

Factor	Sub FacTor	Indicator	Expert 1	2	3	CVR
The cause of the sport injury back pain	Internal	Internal	3	4	3	1
		The previous back pain	3	3	4	1
		The abnormality of body posture such as scoliosis, lordosis, and kyphosis	3	3	3	1
		The move difficulties	3	3	3	1
		Hesitate and lack of concentration	2	3	3	0,67
	External	External	4	4	3	1
		The exaggerated repetition per practice	3	3	2	0,67
		The wrong move technique	3	3	3	1
		Equipment/ sport facility	3	2	3	0,67

The results of the study indicate that all items of questions and indicators are in accordance with the factors causing back pain in sports. In other words, all indicators and questions have high content validation. This was supported by several experts who stated that the quality of the instrument was said to be good if it had high validity ((Kimberlin & Winterstein, 2008); (Tomoliyus; Sumaryanti; & Jatmika, 2016); (David Aaron Maroof, 2012)). In other words valid means, a measure that shows the validity or similarity of results obtained from an instrument that is able to measure something that is to be measured ((Kimberlin & Winterstein, 2008)). Therefore, this instrument can be used to assess a person's back pain due to exercise.

The outlines and the questions as shown from the **Table 2** and **Table 3** as follows:

Table 2. The Outlines of instrument of the cause of back pain in sport

Factor	Indicator	Question
Internal	The decreasing physical fitness	1
	The previous back injury	2
	The abnormality of body posture such as scoliosis, lordosis, and kyphosis	3,4,5,6,7,8
	The move difficulties	9,10
	Hesitate and lack of concentration	11,12
External	Training dosage / over training	13
	The exaggerated repetition per practice	14
	The wrong move technique	15,16
	Equipment/ sport facility	17,18

Instruction:
Put V in column Yes if it is appropriate,
Put V in the column No if it is inappropriate.

Table. Question sheet

Question	Criteria Yes	NO
Do your physical fitness decrease before the back pain?		
Have you ever had injury on the back?		

Do you have the posture abnormality such as scoliosis?

Do you have the posture abnormality such as lordosis?

Do you have the posture abnormality such as kyphosis?

Do you have the legs' shape "O"?

Do you have the legs' shape "O"?

Do you have the legs' shape "X"?

Are your back difficult to be moved?

Are your back difficult to be moved?

Are you hesitate when doing a move while exercising/doing sport?

Are your concentration often disturbed while exercising/doing sport?

Is after doing sport/exercise your sleep anxious?

Are you doing repetition per practice more than 20 times?

Have you ever did the wrong technique?

Have you ever did the wrong technique?

Is the sport equipment used too heavy or heavy enough?

Is the field made by concrete?

CONCLUSION

Based on the results of research and discussion, it can be concluded that the instrument for assessing the causes of back pain in sports has a high content validity value. Therefore a decent instrument is used to measure the assessment of the causes of back pain in sports.

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