Comparison of Visual Analog Scale and Indiana Polyclinic Combined Pain Scale as Pain-Assessment Tools among General Practitioners in Indonesia

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Abstract: There are numerous pain assessment tools available, with no clear superiority between them. Among those tools are Visual Analog Scale (VAS) and Indiana Polyclinic Combined Pain Scale (IPCPS). VAS is often used in assessing pain while IPCPS is a new tool and has more descriptive items for documenting pain. This study is to know which pain-assessment tool is more preferred by physicians and whether there is correlation between VAS and IPCPS. Fifty one Physical Medicine and Rehabilitation Residents in Universitas Indonesia, were enrolled in this cross-sectional study. They were asked to fill-in the questionnaire. Forty subjects (78,4%) preferred VAS than IPCPS to assess patient's pain although 40 subjects stated IPCPS is more accurate in describing patient's pain. The subjects reasoned they are more familiarized with VAS and spend less time to complete it. On the other hand, IPCPS has more detailed descriptions on pain and its ascociation to the patients' activities. There is moderate correlation between VAS and IPCPS score (r = 0,78). VAS is more preferred to assess patient's pain as it is more familiar and need less time to be done, but IPCPS has more items in describing pain.

1 INTRODUCTION

Pain is a common symptom which may be found in physical medicine and rehabilitation patients. It may manifests in several things. It may limit function, have emotional symptoms, physical sensations, and a change in behaviour. The evaluation of pain is challenging and an assessment tool should be choosed carefully by physicians. Pain scales depend on patient's self report, health care professional, family member, or care giver. (Arbuck DM, 2019)

There are numerous pain assessment tools available, with no clear superiority between them. Among those tools are VAS and IPCPS. Visual Analog Scale (VAS) is often used in assessing pain. (Kunar P, 2014) VAS is considered as a robust, sensitive, and reproducible method in describing pain severity. The benefits of VAS are its relative short time to be completed and has minimal language translation difficulties. VAS is also the most feasible and acceptable of health state evaluation. (Ellison T, 2014)

However, VAS has limitation. It may conceal variation in severe pain intensity due to ceiling effects and may leave room for misinterpretation, bias, and confusion due to no well defined anchors. (Ellison T, 2014) The discrete levels of VAS limits VAS in reporting pain (isensitive to change) because its narrow range of scores.[3] It is also more difficult to understand, especially in elderly patients. (Elfering A, 2006)

Another tool for pain assessment is The Indiana Polyclinic Combined Pain Scale (IPCPS). It is the new assessment tools in assessing and documenting pain. (Arbuck DM, 2019). VAS and IPCPS may have some similiarity, but the physicians own personal preferences that may influence their choice in choosing which pain assessment tools to be used. This study aims to to see which tool is more preferred by the physicians and whether both tools have correlation with each other. By knowing physicians' preferred tool and understanding the

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reasoning behind it, it may show some factors which can be considered when choosing evaluation.

2 METHOD

The design of this research is a descriptive-analytic, cross-sectional study.

2.1 Subjects

The research population is general practitioners in RSUPN Dr. Cipto Mangunkusumo, Jakarta. We asked fifty-one Physical Medicine & Rehabilitation resident as our sample. The subjects should fulfil inclusion criterias and do not meet exclusion criterias. The inclusion criterias are as following: (1) physical medicine and rehabilitation resident in RSUPN Dr. Cipto Mangunkusumo, Jakarta who has patients with pain; (2) have internet access; and (3) understand English. Subject who unable and does not understand technical-instrucition of the research could not participated in this study.

2.2 Procedure

Subjects were screened based on inclusion and exclusion criterias. Subjects who fulfilled the inclusion criterias then asked for their consent and then fulfilled the online questionnaire.

The questionnaire consists of: (1) Subjects identities; (2) Patients' VAS score; (3) IPCPS; (4) Their preferred tool to assess patients' pain; and (5) Their opinions on which tool describes patients' pain more accurate. The data collected was then described and analyzed.

2.3 Statistical Methods

All data were analyzed using SPSS Statistic Version 20 (IBM). Descriptive statistics were generated. VAS score variable and IPCPS score were analyzed using univariate analysis to know the characteristics of the variables. The data was then analyzed using bivariate analysis to know the correlation between the variables.

3 RESULTS

From the characteristics table of the respondents in Table 1., the respondents are more female than male and the age is ranged variably.

Table 1: Respondent Characteristics.

	n (%)
Gender	51 (100%)
Male	15 (29,4%)
Female	36 (70,6%)
	median(min-max)
Age (years)	31 (26-37)

Forty subjects prefered VAS than IPCPS to assess patient's pain. The remaining 11 subjects preffered IPCPS. But when they were asked about which tool describes pain more accurate, 40 subjects answered that IPCPS is more accurate in describing patient's pain than VAS.

Table 2: Gender preferences on pain assessement tool.

	VAS	IPCPS
Male	13 (86,7%)	2 (13,3%)
Female	27 (75%)	9 (25%)

From 40 subjects (78,4%) who chose VAS as the preffered tools, 13 of the subjects were male (32,5%) and 27 of the subjects were female (67,5%). And from 11 subjects (21,6%) who chose IPCPS as the preffered tool, 2 of the subjects were male (18,2%) and 9 of the remaining subjects were female (81,8%). From 40 subjects (78,4%) who chose VAS over IPCPS as the preferred tool, subjects were using VAS score to 1 children (2,5%), 16 young adults (40%), 13 older adults (32,5%), and 10 elderly (25%). And from 11 subjects who preferred IPCPS, they used IPCS to 1(9,1%) children, 3 young adult(27,3%), 6 older adults (54,5%) and 1 elderly (9,1%).

From 40 subjects (78,4%) who chose IPCPS as the tool which describes patient's pain more accurate, 9 of the subjects were male (22,5%) and 31 of the subjects were female (77,5%). And from 11 subjects (21,6%) who chose VAS as the tool which describes patient's pain more accurate, 6 of the subjects were male (54,5%) and 5 of the remaining subjects were female(45,5%). From 40 subjects (78,4%) who stated IPCPS is more accurate in describing pain, they used IPCPS to 2 children (5%), 13 young adults (32,5%), 17 older adults (42,5%), and 8 elderly (20%). There are differences in another 11 subjects who stated that VAS is more accurate in describing pain (21,6%). They used it to 6 young

adults (54,5%), 2 older adults (18,2%) and 3 elderly (27,3%).

From 40 Subjects who chose VAS score as preferred tool to assess patient's pain, 15 subjects (37,5%) reasoned that they are more familiarized with VAS than IPCPS so using VAS score to assess pain is more convenient and easy for them. 24 subjects (60%) reasoned that VAS need less time to complete than IPCPS and the other 1 subject (2,5%) reasoned that VAS is more related to patient's responses. From 11 Subjects who chose IPCPS as preferred tool to assess patient's pain, 2 subjects (18,2%) reasoned that IPCPS is more relevant and easily applied to the patient's disability because of the pain. The other 9 subjects (81,8%) reasoned that IPCPS is more descriptive than VAS to assess pain.

Table 3: Resident preferences on pain assessement tool.

	VAS	IPCPS
Preparation (Pembekalan)	9 (69,2%)	4 (30,8%)
Internship (Magang)	20 (90,9%)	2 (9,1%)
Independent (Mandiri)	11 (68,8%)	5 (31,3%)

There are less subjects in preparation and independent level who chose VAS over IPCPS than in the internship level. Most subjects who preferred IPCPS than VAS is also from the preparation and independent group.

From 11 subjects who stated that VAS is more accurate to describe pain than IPCPS, 6 subjects (54,5%) reasoned that they confirmed patients' responses more easily than using IPCPS and it may give more accurate value to the patient's pain. The other 5 subjects (45,5%) reasoned that patients was more understand to describe their pain when using scale in VAS score than IPCPS. But, from 40 subjects who stated IPCPS is more accurate in describing pain, all of them reasoned that IPCPS is stated more detailed information for the patients to compare with their pain and what problems may be happened with their pain quality. They also reasoned that IPCPS is more objective and hollistic to be used in assessing pain.

The data is not distributed normally ($p<0.05$), so the Spearman test was used as a nonparametric correlations test. The test showed that IPCPS pain rating scale has moderate correlation with VAS score in assessing patient's pain ($r = 0,780$, $p<0,05$).

4 DISCUSSIONS

There was more subjects preferred using VAS score to assess pain than IPCPS. It was because of they were familiarized with the tool so they need less time to complete it. A study said that social environment and culture have influences in making people choose something they are more familiarized with. The more someone become familiarized with something, it will take less time for them to do it. It is also said that there is some tendency to continue doing what has been done in the past. (Curtis K, 2018)

As the subjects' patient was varied in age, there is no statistical differences in patients age and tools to assess their pain with ($p>0.05$).

The majority of the subjects stated that the IPCPS is more accurate in describing pain than VAS. It is more likely because the IPCPS consists more detailed description in explaining pain and its ascociation to functional activities than VAS. It is said that successful explanations start with accurate descriptions, when the questionnaire items is being a personality markers. (Seeboth A, 2018)

The limitation of this study is we did not consider group allocation between preparation, internship, and independent level of the residents. We also need study with more sample to do realibility or validity test to IPCPS.

5 CONCLUSIONS

Based on this study, VAS is more preferred to assess patient's pain as it is more familiar and need less time to be done, but IPCPS has more descriptive items on describing pain. The usage of IPCPS may need some education and workshop before hand so clinicians may familiarized more and using the tool well. Further study may be needed to test the reliability and validty of IPCPS.

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