

A structured workshop enhanced Physiotherapists' skills in clinical decision-making: A pre-post study

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ABSTRACT

Context: Effective clinical decision-making skills enhance the quality of patient care. Clinical reasoning and decision-making are fundamental aspects of best physiotherapy clinical practice. **Aims:** To evaluate the effectiveness of an evidence-based structured educational workshop in enhancing physiotherapists' clinical decision-making skills. **Settings and Designs:** A pre-post design conducted in a medical college. **Methods and Materials:** A workshop protocol was developed based on the existing evidence and clinical practice guidelines. The workshop was advertised on the social media page of Nepal Physiotherapy association. On the first come first serve method; physiotherapists were selected. Those who met eligibility criteria were recruited for one of two workshops. Discussion was made on clinical scenarios aimed at enhancing clinical decision-making skills. Data were collected before and after the workshop using a self-administered clinical decision-making skills assessment tool to evaluate effectiveness of the workshop. Paired and unpaired t-tests were used to analyze within and between groups respectively. **Results:** Significant improvement in clinical decision-making skills was found for all individual items ($P < 0.001$ in all items, effect size: 0.6 - 0.9), total EP score ($P < 0.001$, effect size: 0.8) and total clinical decision-making score ($P < 0.001$, effect size: 0.9). A significant difference was found between Bachelor and Master level education ($P < 0.05$). **Conclusions:** An evidence-based structured educational workshop enhanced physiotherapists' clinical decision-making skills. The findings of this study could be relevant to all health care professionals working in clinical practice. Larger studies with a control group are recommended to strengthen the findings of this study.

Keywords: Clinical decision making, Clinical reasoning, exercise prescription, physiotherapy

Introduction

The clinical decision-making (CDM) is “the reasoning that results in action” in patient management^[1] through identification of the patients' problems leading to the establishments of therapeutic diagnosis and prioritized goals, determination of treatment plan,

and selection of interventions with appropriate parameters based on the best available evidence to improve the quality of life of a patient.^[2-4] The clinical reasoning, exercise prescription (EP) and decision-making are fundamental aspects of physiotherapy clinical practice.^[5] The CDM process including EP course in physiotherapy education is relatively new and less focused in developing countries like Nepal. The evidence shows limited knowledge in physiotherapists' CDM skills,^[5,6] that can be improved through evidence-based continuous professional developmental activities.^[1,7] This study aimed to evaluate the effectiveness of an evidence-based structured educational workshop in enhancing physiotherapists' clinical decision-making skills.

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Subjects and Methods

Selection and description of participants: Physiotherapists working in different parts of Nepal were invited through an open advertisement in the social media page of NEpal PhysioTherapy Association (NEPTA) to participate in the workshop. The NEPTA is a platform where all the Nepalese physiotherapists register to get timely professional updates. The workshop was conducted with the Nepalese physiotherapists working nationwide in January 2020. The Dhulikhel hospital and the NEPTA organized one workshop each and participants were selected on first-come-first-serve basis. The maximum number we estimated per workshop was 32, which is an optimal number to run a workshop effectively so that there can be 6 – 8 members per group in each four discussion groups.^[8,9] This was a one-day workshop (equivalent to 6 credit hours accredited by NEPTA), which was conducted on two weekends for two separate groups. An ethical approval was obtained from the Institutional Review Committee – Kathmandu University School of Medical Sciences, IRC-KUSMS on April 08, 2019 (approval number: 119/19). A written informed consent was obtained from all the participants prior to the study.

The Nepalese physiotherapists (holding bachelor's degree or above in physiotherapy) who: (a) had completed their degree with the medium of education as English, (b) were registered in Nepal health professional council, and (c) were working either in clinics, or health posts, or hospitals, or teaching hospitals, or medical colleges or rehabilitation centers, or community centers, were included in this study. Those physiotherapists who did not complete the workshop session or were not willing to give consent were excluded from the study.

The participants were provided with a range of cases or scenarios as a trigger for discussion. Participants' active involvement was encouraged and they had to come up with the solution through their critical reasoning during every discussion. A resource person, the first author of this study provided evidence and triggers for discussion through PowerPoint presentations and facilitated participants for discussion in a small group. Each group was asked to discuss within the group first and then to present it to the whole team for further discussion and refine the prescription. This procedure was repeated six times within the six-hour workshop at various steps (assessment, physiotherapy diagnosis, intervention selection, sequencing of the intervention, parameter selection, and a complete intervention prescription at the end) of the CDM process [Figure 1]. The effectiveness of the intervention was assessed before and immediately after the workshop.

Intervention: An educational workshop on clinical decision-making: A workshop protocol was developed based on the existing evidence and clinical practice guidelines.^[10-12] The first part of the workshop was focused on deriving physiotherapy diagnosis (PTD) (also termed functional diagnosis or functional evaluation) based on the findings from subjective as well as objective examination. Since, the PTD has been deemed to

be important to direct the physiotherapy treatment,^[13] at the end of the assessment part, participants were supposed to formulate PTD for the given case [Table 1]. The second part of the workshop was focused on developing skills on EP through clinical reasoning. The protocol adopted for EP was based on an updated and dynamic principle of EP termed FITT-CORRECT principle, derived by Adhikari *et al.*, 2020^[10] (the manuscript is in review process and the updated principle is available on request). FITT represents; Frequency (how often), Intensity (how much or how hard), Time (duration or how long), and Type (mode or what kind). CORRECT represents; C: Combination of interventions/exercises, O – Order of the Interventions/exercises, R – Repetitions, R – Rest period between sets (exercise-rest ratio) and between sessions, E – Exercise at home (home prescription), C – Cognitive domain, T – Total dose and re-evaluation plan. At the end of the workshop, each group had to have clinical decision to select appropriate evidence-based interventions, structure goal-specific EP including total dose for the given case [Table 1] with follow up and reassessment plans.

Outcome measure: Clinical Decision Making Skills Assessment Tool (CDMSAT) was used to assess the effectiveness of the workshop. Since no relevant, feasible, and appropriate tool to assess physiotherapist's CDM skills was evident, the CDMSAT was developed based on the available evidence.^[5,14-16] This self-administered questionnaire has been revised multiple times by all authors of this study to refine it. There are two sections

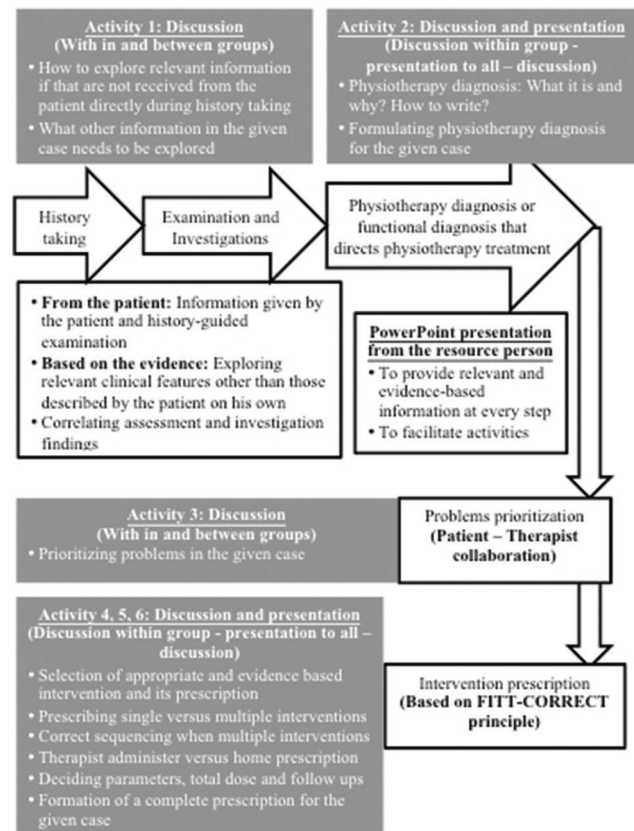


Figure 1: Workshop sequence and activities of total six hours

Table 1: Clinical scenarios used for discussion

Group I: Scenario on Pediatric condition	Group II: Scenario on Musculoskeletal condition	Group III: Scenario on Cardiorespiratory condition	Group IV: Scenario on Neurological condition
<p>A 19 months old male child having medical diagnosis of hypoxic ischemic encephalopathy grade II and seizure disorder with global developmental delay presented to physiotherapy department for inability to sit independently. Clinically, tone of major muscles of UE and LE: 1+out of 4 in MAS, and static and active control present till inferior scapular level but reduced reactive trunk control at axillary level as per SATCo. Knee, ankle and biceps (B/L) reflexes were exaggerated (+++). Caregiver's major concern was to make him able to maintain the trunk straight and achieve balanced sitting position. Due to time and money issues of the caregiver, they would like to do exercise for their child on their own at home.</p>	<p>Mr. Yadav who underwent Arthroscopic ACL reconstruction with Lateral meniscal repair after 3 months of injury, presented to physiotherapy department with a complaint of knee pain, feeling of knee giving away and popping sound from the knee. He was worried being unable to participate in sports activities with his friends. After surgery, he had right side hip extension: 0-40, knee flexion: 20-75, knee extension lag: 20 degree, ankle dorsiflexion: 0-15, Ankle plantar flexion: 0-25 degree. All ROM of left side was within normal range. He had decreased strength grossly in muscles of right lower extremity. Atrophy of thigh muscles was seen, right- 41 cm, and left- 46 cm, at 20 cm above base of patella. His total Lysholm score was 77/100. He was facing difficulty in toileting, and climbing stairs. He was eager to be able to return to his sport activities.</p>	<p>Mrs. Yonjan, a farmer with a medical diagnosis of AE of COPD with bilateral lower zone pneumonia had breathing difficulty for last 13 yrs. She was admitted in a ward due to increased sign and symptoms two days back. Due to dyspnea (MMRC Dyspnea scale 4/4), she was unable to perform most of her ADLs. She had productive cough but was unable to expectorate sputum, which worsened the level of dyspnea. She belongs to a poor family in rural areas. She had B/L decreased air entry at lower lobes with wheezes over middle and lower lung fields. Her chest expansion was decreased by 0.1 cm at axillary level, 2 cm at nipple level, and 1 cm at xiphoid level during inch tape measurement. But chest movement was symmetrical. Katz index was 2/6. She had reduced mobility and disused atrophy in LE. Her major concern was to be able to expectorate sputum easily and to be able to perform her ADLs without breathing difficulty.</p>	<p>Mr. Poudel, a farmer with a diagnosis of left Thalamo-ganglionic intracerebral hemorrhage with known case of HTN, DM presented to Physiotherapy unit for impaired mobility of his right side of body after a week of onset. He was unable to stand and walk independently and was most unhappy at the moment being unable to use his dominant right hand for eating. The total FMA for right LE was 18/84, motor domain: 10/34 and for right UE, total FMA was 80/126, and motor domain was 32/66. His wrist extension and 1st to 3rd fingers extension was 10 degree each, mass finger flexion and extension was 1 out of 2 in each on FMA. Even when any movement was performed, he was unable to repeat it. His MMSE score was 19/30. The sensory score was: 1 out of 2 in each item of FMA in UE and LE. His son was primary family caregiver and was looking forward having good physiotherapy treatment. Patient would like to have food with his own right hand as soon as possible.</p>

LE: lower extremity, UE: Upper extremity, FMA: Fugl Meyer Assessment, MMSE: Mini Mental State Examination, MAS: Modified Ashworth Scale, ADL: Activities of Daily Living, HTN: Hypertension, DM: Diabetes Mellitus, MMRC: modified medical research council, COPD: Chronic Obstructive Pulmonary Diseases, ACL: Anterior Cruciate Ligament, ROM: Range of Motion, SATCo: Segmental assessment of trunk control

in CDMSAT. The section "A" is in the form of visual analog scale (VAS); 0 (no knowledge) to 10 (optimal knowledge).^[17] There are total 22 items to assess CDM. Items 1 to 14 assess knowledge, recent evidence, intervention selection, contextual factors, physiotherapy diagnosis, and use of reflective practice. Items 15 to 22 assess EP skills (a core component of CDM). The score of these 22 items can be analyzed individually or in total. The higher the total or itemized score better is the skills. The section 'B' is in the form of multiple-choice and open questions to explore additional information from the participants. The CDMSAT was given to the participants to fill it before and immediately after the workshop. Based on the evidence in medical and nursing education and research, the CDMSAT has been considered reliable for this study to assess participants' skills before and immediately after the workshop.^[18,19] This tool was validated in Nepal, applying it to 30 participants to make sure that it measures what it is intended to measure before applying it to the participants of this study. Furthermore, socio-demographic, personal, and physiotherapy related characteristics were recorded in the information sheet.

An ethical approval was obtained from *** (***) approval number: 119/19). A written informed consent was obtained from all the participants prior to the study.

Statistics: Socio-demographic and clinical data were analyzed using descriptive statistics. Since the data were normally

distributed (K – S test, $P > 0.05$), paired t-test and unpaired t-test were used to analyze data within and between groups respectively. The level of significance was considered at $P < 0.05$. The SPSS version 20.00 was used to analyze the data. The effect size was calculated using a formula: $\sqrt{t^2/(t^2 + df)}$ where t is statistic of paired-t-test and df is the degree of freedom.^[20]

Results

A total of 42 participants (24 in the first workshop and 18 in the second workshop) met the eligibility criteria of the study. The mean age of the participants was 26.95 years. Participants with bachelor's degree were larger in proportion (71.4%) than participants with master's degree. Majority (47.6%) of the participants were working in various health-posts/hospitals/medical colleges. Larger proportion (57.1%) had working experience of <2 years. More than half (61.9%) of the participants had heard about EP/clinical decision-making during their bachelor's education, whereas 16.7% had heard only during their clinical practice after the completion of bachelor's education. Based on participants' perceptions, multiple factors (73.8%) were responsible for EP/clinical decision-making in their routine clinical practice.

As shown in Table 2, each item and total EP score as well as the total CDM score demonstrated significant improvement in the VAS score after the workshop. The magnitude of each item represented

Table 2: Demographic characteristics of the participants (n=42)

Variables	Frequency (%)/ Mean (SD)
Age (years)	26.95 (3.58)
Gender	
Male	19 (45.2)
Female	23 (54.8)
Education	
Bachelor of Physiotherapy	30 (71.4)
Master of Physiotherapy	12 (28.6)
Experience	
<2 years	24 (57.1)
≥2 years	18 (42.9)
Work setting	
Private clinic	3 (7.1)
Health post/Hospitals/Medical colleges	20 (47.6)
Rehabilitation centers	5 (11.9)
Multiple settings	14 (33.3)
Participation	
In first workshop	24 (57.1)
In second workshop	18 (42.9)
When heard about exercise prescription/clinical decision making	
During Bachelor of Physiotherapy (education)	26 (61.9)
During Master of Physiotherapy (education)	0 (0.0)
During both Bachelor and Master of Physiotherapy (education)	7 (16.7)
During practice	7 (16.7)
During education and practice	2 (4.8)
Factors affecting exercise prescription/clinical decision making	
Time	2 (4.8)
Number of patients	6 (14.3)
Equipment availability/facility	1 (2.4)
Multiple factors (mentioned above)	31 (73.8)
Others	2 (4.8)

n=Number of participants, SD=Standard Deviation

with the effect size was large. The total CDM score yielded larger effect size (0.9) than those of any other individual item.

The between group analysis [Table 3] demonstrated that there was no group differences pre-workshop between two levels of experience and between first and second workshops, both for EP and CDM. Though Bachelor of Physiotherapy (BPT) and Master of Physiotherapy (MPT) demonstrated no significant difference for EP at pre-workshop, a significant difference was seen between BPT and MPT groups for CDM at pre-training and both EP and CDM at post-training [Table 4]. Levels of work experience (< 2 years and ≥2 years) and two workshops did not show any significant difference at pre as well as post-training for both EP and CDM.

There was significant difference within the BPT group both for EP (mean difference = 16.97, SD [Standard deviation] = 15.97, $t = 5.82$, $P < 0.001$) and for CDM (mean difference = 53.40, SD = 28.26, $t = 10.35$, $P < 0.001$). Similarly, there was significant difference within the MPT group both for EP (mean difference = 15.33, SD = 9.48, $t = 5.60$, $P < 0.001$) and for CDM (mean difference = 38.83, SD = 20.65, $t = 6.51$, $P < 0.001$).

Discussion

A structured workshop was conducted to enhance physiotherapists' skills on CDM process including exercises prescription. The improvement of physiotherapists' skills in CDM including EP after the workshop based on outcome of CDMSAT indicated effectiveness of the workshop. Workshop is an effective mode of continuous professional development activity.

During the two workshops, two groups of physiotherapists completed the study. Participants were actively involved in the learning process, as demonstrated by their active participation in the discussion within the team and voluntary presentation of discussion findings to the large group. Heterogeneous participants with respect to age, education, experience, and work setting reinforced discussion within the group. The friendly environment, and few groups of small numbers might have helped to make the discussion more effective in terms of learning and time management as evident in the literature.^[8,9]

In a country like Nepal, where the physiotherapy profession is in the growing phase, majority of the participants were with bachelor's degree. More than two-thirds of them had completed their education from India where the physiotherapy education is similar to Nepal. Many of them had not even heard about clinical reasoning or EP or CDM during their education. This could be because either these topics were not included in their curriculum or teaching methodology (e.g., self-directed learning) could not address it. It is important to mention here, how patient care and therapeutic prognosis might have got affected. The continuous professional development activities are now growing in Nepal. Thus, setting a foundation and making physiotherapists competent enough in fundamental skills is critical to fulfill the burgeoning need of the country. This first-of-its-kind workshop for the physiotherapists in Nepal was able to add knowledge and enhance their decision-making skills.

The workshop was efficient to achieve the objectives within the fixed timeframe. The itemized and total effect size achieved was very large based on Cohen's classification.^[21,22] Though we did not have a control group for comparison, the large effect size achieved immediately after the workshop could be due to the effectiveness of the workshop. Our findings were supported with the conclusion of the study by Wainwright *et al.*, 2009, according to which, well-structured professional development programs like workshops can foster physiotherapists' CDM abilities.^[1] To our knowledge, this study is the first to evaluate the effectiveness of a workshop on physiotherapists' CDM abilities. The researchers have planned to evaluate the clinical implication of the learned skills in the workshop after six months.

The between-group analysis demonstrated that the knowledge on EP or CDM before and after the workshop was not significantly different in physiotherapists having varied work experience or different work settings. This finding indicated that the content

Table 3: Pre - Post comparison (n=42)

Items	Mean Diff.	SD of the Diff.	St. Err. Diff.	95% CI of the Diff.	t	P	Effect size
1	1.88	1.27	0.2	1.48, 2.28	9.58	<0.001*	0.8
2	2.17	1.45	0.22	1.72, 2.62	9.71	<0.001*	0.8
3	1.67	1.65	0.25	1.15, 2.18	6.56	<0.001*	0.7
4	2.02	1.54	0.24	1.55, 2.5	8.53	<0.001*	0.8
5	2.07	1.57	0.24	1.58, 2.56	8.56	<0.001*	0.8
6	1.62	1.45	0.22	1.17, 2.07	7.23	<0.001*	0.7
7	2.02	1.69	0.26	1.49, 2.55	7.77	<0.001*	0.8
8	1.07	1.31	0.20	0.66, 1.48	5.09	<0.001*	0.6
9	2.1	1.83	0.28	1.52, 2.67	7.41	<0.001*	0.8
10	1.86	1.51	0.23	1.39, 2.33	7.99	<0.001*	0.8
11	1.74	1.40	0.22	1.30, 2.17	8.06	<0.001*	0.8
12	1.93	1.92	0.30	1.33, 2.53	6.52	<0.001*	0.7
13	1.93	1.67	0.26	1.41, 2.45	7.47	<0.001*	0.8
14	2.41	2.34	0.36	1.68, 3.13	6.67	<0.001*	0.7
15	2.02	1.65	0.25	1.51, 2.54	7.97	<0.001*	0.8
16	2.29	1.52	0.23	1.81, 2.76	9.75	<0.001*	0.8
17	1.91	1.48	0.24	1.44, 2.37	8.35	<0.001*	0.8
18	2.05	1.45	0.22	1.60, 2.50	9.17	<0.001*	0.8
19	3.00	1.91	0.29	2.38, 3.57	10.12	<0.001*	0.8
20	3.33	2.03	0.31	2.70, 4.00	10.63	<0.001*	0.9
21	1.83	1.82	0.28	1.27, 2.40	6.52	<0.001*	0.7
22	1.81	1.37	0.21	1.38, 2.23	8.59	<0.001*	0.8
Total EP	16.50	14.32	2.21	12.04, 20.96	7.47	<0.001*	0.8
Total CDM	49.24	26.90	4.15	40.85, 57.62	11.86	<0.001*	0.9

*Indicates significant at P<0.05, St. Err: Standard Error, Diff: Difference, n: Number of participants, CI: Confidence Interval, SD: Standard Deviation

Table 4: Comparison between groups with respect to education, experience, and workshops

Variables	Groups	Pre-workshop				Post-workshop			
		Mean diff.	St. Err. Diff.	95% CI	P	Mean diff.	St. Err. Diff.	95% CI	P
Exercise prescription (Total score)	Education: BPT (n=30)	5.52	5.17	-2.96, 14.00	0.20	3.88	1.49	0.84-6.93	0.01*
	MPT (n=12)								
	Experience: <2 years (n=24)	3.64	5.14	-7.01, 14.29	0.49	-0.74	1.60	-3.97, 2.49	0.65
	≥2 years (n=18)								
	Workshops: 1 st workshop (n=24)	-8.03	4.18	-16.29, 0.44	0.06	2.08	1.69	-1.36, 5.53	0.23
	2 nd workshop (n=18)								
Clinical decision making (Total score)	Education: BPT (n=30)	24.25	8.41	6.86, 41.64	0.008*	9.68	4.34	0.75, 18.61	0.03*
	MPT (n=12)								
	Experience: <2 years (n=24)	-8.33	9.06	-26.82, 10.15	0.37	-4.86	4.40	-13.76, 4.04	0.28
	≥2 years (n=18)								
	Workshops: 1 st workshop (n=24)	-12.32	8.44	-29.40, 4.76	0.15	6.03	4.55	-3.20, 15.26	0.19
	2 nd workshop (n=18)								

*Indicates significant at P<0.05, St. Err: Standard Error, Diff: Difference, BPT: Bachelor of Physiotherapy, MPT: Master of Physiotherapy, N: Number of participants, CI: Confidence Interval

was not well learned during their clinical practice. This is in contrast to the findings in a review by Banning 2005 who demonstrated that work experience enhances CDM skills.^[23] The difference could be because of the knowledge and skills acquired at the foundation level that builds up with the experience. Some of our participants had not even heard about EP or CDM process. So, the chance of getting built up is very low in our study population.

In our study, the physiotherapists with master's degree were more capable of understanding EP and CDM processes compared to the physiotherapists with bachelor's degrees. This could be because of more clinical reasoning capacity enhanced by their additional education in physiotherapists with master's degree (after bachelor's education). Since, CDM is the foundation of the optimal patient management,^[1] it has to be integrated early in the bachelor's or entry-level education, and continuous professional

development activities have to be frequently conducted to improve physiotherapist's abilities in this content. The content hours for CDM topic remain varied in various universities or countries. The New York University has allocated about 90 hours for CDM.^[24] No clear evidence is available in Asian context. Varied level of evidence-based education system persists in the universities in India as stated by the Nepalese physiotherapists who graduated from those universities. Based on authors' information, about 9 – 14 hours of CDM content-hours are allocated in physiotherapy curriculum in Nepal, which might be less in physiotherapy education. Ekkekakis *et al.*, in their study also emphasized that the knowledge in EP among the graduates is lower than that of the required level.^[25] The panel discussion of World Confederation for Physical Therapy also stated that there is a lack of educational curriculum regarding CDM including EP, which results in a lack of knowledge among physiotherapists worldwide.^[26] Therefore, an emphasis on CDM during curriculum development is essential. Consistent with the findings in a study by Edwards and Richardson 2009,^[27] our study emphasized that there is a need of physiotherapists' skills enhancement regarding EP and CDM processes during their clinical practice as well. However, in agreement with the findings of a review by Huhn *et al.*,^[28] a "gold-standard" method of clinical reasoning or CDM process is warranted.

The various factors influence physiotherapists' CDM skills,^[1] which is consistent with the findings of our study. Limited time, facilities and socio-economical as well as technological factors are common influencing factors. In addition, physiotherapists' knowledge and experience were two important self-barriers noticed in our study beside other factors, which is in agreement with the findings from Jiandani *et al.*, in their article.^[13]

The outcome of the present study is applicable to not only physiotherapists but also to all the health care professionals who need to update CDM skills with time. As Mosalanejad *et al.*^[29] and Grammatikopoulou *et al.*^[30] in their studies conducted in medical doctors concluded that training through workshops lead to increase in knowledge and functions. The influencing factors for CDM skills in doctors, dentists, and different health care providers may match in a similar context, cultural background, and environment. Therefore, the conclusion of this study could be of great values regarding the development of workshop protocols, conduction of the workshops to health care professionals requiring CDM skills.

Limitations and future recommendations: Evaluation of the effectiveness of the workshop without a control group was a limitation of this study. Discussion and demonstration directly on a patient would have strengthened the clinical implication of the workshop. Clinical reasoning and EP workshops in various specialties of physiotherapy are recommended for future workshops.

Highlights of the study

- A structured workshop could enhance physiotherapists' CDM skills.

- A structured workshop is an effective mode of continuous professional development activity to enhance knowledge.
- The findings of the study could be helpful to all health care professionals working in a similar context and background
- Level of education makes difference in CDM. Therefore, the workshops have to be organized based on the level of participants' education to make them effective
- Various factors influence CDM skills in different contexts and backgrounds.

Conclusions

An evidence-based, small group, structured educational workshop enhanced physiotherapists' clinical decision-making skills. Level of education made difference in clinic decision-making. Findings of this study concluded that workshop is an effective method for continuous professional development. This study could be relevant to all the clinical practicing health care professionals working in similar contexts and backgrounds. Larger scaled studies with control group and evaluation of retention of learned skills in long-term follow-ups are recommended to strengthen the findings of the present study.

Key message

Developing clinical decision-makings skills is critical and important to all health practitioners including physiotherapists. An evidence-based structured educational workshop enhanced physiotherapists' clinical decision-making skills. Therefore, a structured workshop is an effective mode of continuous professional development activity to enhance knowledge. The findings of the study could be helpful to all health care professionals working in a similar context and background. The level of education makes difference in CDM. Therefore, the workshops have to be organized based on the level of participants' education to make them effective. Various factors influence CDM skills in different context and background.

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Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the participants has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The participants understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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