Development and Content validation of Questionnaires to Examine Current Status of Physical Therapy Practice in Cancer Rehabilitation in South India

Karthikeyan G*, Udaya Kumar Manoorb, Sanjay Sudhakar Supec.

Introduction

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells. If the spread is not controlled, it can result in death. The corresponding estimates for total cancer deaths in 2007 are 7.6 million (about 20,000 cancer deaths a day), 2.9 million in economically developed countries and 4.7 million in economically developing countries. By 2050, the global burden is expected to grow to 27 million new cancer cases and 17.5 million cancer deaths simply due to the growth and aging of the population.1

Rehabilitation in relation to cancer can be preventative, restorative, supportive and palliative. It is recognized that patients may have rehabilitation needs throughout their care pathway, and that their needs should be assessed at key points on the pathway. The fact that cancer patients are facing several months of chemotherapy and/or radiotherapy and usually major surgery, as well as the direct effect of immobility due to pain, means that muscle wasting, joint stiffness as well as de-conditioning and fatigue is inevitable. These problems can be minimized by appropriate explanation regarding treatment and information about maintenance exercises at an early stage.2 McDonnell &

ABSTRACT

Background and Purpose: The role of the physiotherapist, as an essential member of the multi-disciplinary team is the key to the successful rehabilitation and management of patients with cancer and palliative care needs. This paper describes the development and content validation process of three questionnaires designed to assess the physiotherapy practice pattern in cancer rehabilitation.

Materials and Method: Three questionnaires were developed after completion of a literature review, expert opinion, focus group and from areas deemed important by our clinical & academic faculty. Drafts were sent to 25 jurors and 20 cancer patients to assess face and content validity. Qualitative and quantitative assessment of each questionnaire was done by the reviewers.

Results: The results showed that the items of the questionnaire considered being easy to complete. Both open- and closed-ended questions/items were included as per the suggestion by the panel of content jurors. The jurors deemed almost all the items on all three Questionnaire significant (CVR ≥ 0.75, p<0.05).

Conclusion: We have developed three questionnaires for cancer patients and survivors, physiotherapists and oncologists to measure the physiotherapy practice pattern, referral pattern and knowledge in cancer rehabilitation. Initial support for face and content validity was established.

Key words: Cancer Rehabilitation, Physical Therapy, Questionnaire, Tool Development, Tool Validation.

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Shea\textsuperscript{3} stated that the role of physiotherapy in oncologic rehabilitation includes restoring function; reducing pain; reducing disability; increasing conditioning and mobility; and ultimately improving quality of life.

The physiotherapists have a large preventative, educative and supportive role to play in the management of the person with cancer, as well as providing independent and complementary therapies for physical debility and pain.\textsuperscript{4} The role of the physiotherapist, as an essential member of the multi-disciplinary team is the key to the successful rehabilitation and management of patients with cancer and palliative care needs. The absence of physiotherapy intervention would be detrimental to patient care and the ability of the patient/family to cope with the effects of the disease or its treatment on their functional capacity and quality of life.\textsuperscript{5}

Individuals undergoing cancer treatment or in survivorship often develop functional deficits from pain, movement restrictions, fatigue, lymphedema, skin and soft tissue breakdown, and difficulty breathing.\textsuperscript{6,7} Individuals who undergo chemotherapy or radiation treatments are at risk for developing cardiovascular and pulmonary toxicities and therefore, require diligent vital signs and laboratory monitoring to assure safety during physical therapy interventions.\textsuperscript{8}

As greater numbers of individuals enter acute and chronic cancer survivorship, there is growing interest in recovery of physical function, health maintenance, and health promotion. Although studies are beginning to describe the degree that cancer and its treatments contributes to acute and chronic functional problems and health issues, at the present time the number and type of cancer survivors that would benefit from physical therapy interventions are unclear.\textsuperscript{8} Following surgery for the cancer, the outcomes are better among patients who participated in postoperative physical therapy programs.\textsuperscript{9,10}

One prior study examined physical therapy practice patterns using a custom prepared survey tool in individuals with oncology conditions in Washington State\textsuperscript{11} and found that about 46.8\% of physical therapist respondents reported treating individuals with either a primary or secondary diagnosis of cancer. The most common treatment sites were orthopaedics and neurologic settings, while the most common interventions were strengthening, range of motion, energy conservation, and breathing treatments. The study also reported that approximately 40\% of respondents who treated individuals with an oncology history did not measure functional outcomes and approximately 10\% of respondents did not monitor these individuals during treatment. Another study\textsuperscript{9} in this respect found that 12.8\% of physical therapists did not monitor vital signs or laboratory values during treatment of individuals with primary or secondary oncology diagnoses and the functional outcome assessments, a main indication of the progress and merit of physical therapy interventions were inconsistently performed in the state Mitchigan. These authors also used a custom prepared survey tool following the previous study in Washington which was mailed to the physical Therapists for their response.

Data from this study showed that although large numbers of individuals have experienced cancer, very few of these individuals have benefited from the care of physical therapists. Further those authors suggested that expanded information on physical therapist oncology practice patterns from other locations would be of benefit for advancing research initiatives, developing educational directives, and promoting professional practice guidelines in oncology. That study also indicated that 77\% of physical therapist respondents either never or rarely treated individuals with a primary or secondary oncology related health condition or history.\textsuperscript{8} Although professional standards indicate that physical therapists promote and maintain physical function, very little has been documented about the extent physical therapists are involved in the care and management of individuals with functional deficits related to cancer.\textsuperscript{12-17} So far no studies have been documented regarding the overall physiotherapy practice pattern in oncology setup in any part of India. In this regard, our study is unique
research work in India. Further, expanded information on physical therapist oncology practice patterns in India identified from this study would be of benefit for identifying the current scenario of Physical therapist contribution on cancer rehabilitation, advancing research initiatives, developing educational directives, and promoting professional practice guidelines in oncology.

Given the importance of role of physical therapists in cancer rehabilitation and lack of knowledge and awareness and the ambiguity of the findings to date, it is perhaps premature to dismiss the current scenario of physical therapy practice in cancer rehabilitation and awareness among the patients, therapists and oncologists without first trying to develop an appropriate and valid instrument with which to test the same in South India.

Survey is the most appropriate method to identify and explore the physiotherapy treatment practice patterns in cancer rehabilitation. Because, plethora of information would be collected in short period of time through survey method, and it would take comparatively less time to analyse than qualitative data in survey method. So we intend to adopt survey method for the present study. Hence, we require a valid tool which can be distributed to collect the data. Then analysis and interpretation can be done for the purpose of stating the facts in the status of physiotherapy services available/ provided for the patients in South India. For these reasons, we have planned to design three questionnaires better to understand the application and survey process. This article describes the process used to develop the questionnaires and to assure content validity of these questionnaires.

Therefore, the purpose of this study is to develop the questionnaires which can then be used to look again to examine and describe current practice patterns of physical therapy in cancer rehabilitation in South India and to validate those questionnaires for the purpose of utilization in the future.

**Methodology:**

We had planned to construct three Survey Instruments. First questionnaire is for the cancer patients which required the questions regarding the condition, signs & symptoms, physical impairments, difficulties in daily activities, changes in the quality of life, physical therapy treatments knowledge, availability, received and satisfaction. The second Questionnaire for the physical therapists required the questions regarding the professional qualification, experience, working set up, oncology case load, modalities prescribed for the cancer patients, diagnostic procedures used for the cancer patients and the physical and functional outcome measures used after the treatment of cancer patients. The third Questionnaire for the oncologists required the questions regarding the experience, case load, common type of cancer patients they treat, symptoms which require physical therapy, knowledge about physical therapy usage in cancer patients and reference and prescription of patients for physical therapy. McKenzie and colleagues described four specific phases in development of the questionnaire and for establishing content validity of a questionnaire. These steps include (1) creating an initial draft of the questionnaire, (2) establishing/selecting a jury/panel of reviewers to evaluate the questionnaire, (3) having jurors conduct a qualitative review of the questionnaire, and (4) having jurors conduct a quantitative review of the questionnaire. We also have followed those steps for the development and content validation of those questionnaires.

*Item generation and creating an initial draft of the questionnaire:*

The Questionnaire was developed based on the standard procedures. The questions in the three questionnaires were prepared after having discussion with the experts in the concerned fields like, Physiotherapy, Nursing and Oncology who are having the role in the integrated aspect of cancer rehabilitation. To prepare a comprehensive set of items measuring the most important aspects of physiotherapy practice in cancer rehabilitation from patients, and expert panel of health care professionals were identified the concepts to be
measured. To fulfil those concepts the questions are made in the questionnaires. Using broad categories, an item pool of 162 was generated. Some items were taken from existing questionnaires while others were generated from the literature and with expert advice from oncologists, Physiotherapists working in the cancer rehabilitation centres, Academicians and Nurses where necessary. It is believed that this process served to maximise the content validity of the questionnaire, that is, that the items selected represent the whole area of knowledge being measured.

Using this pool of items, two reviews were carried out by the author and co-authors to select the best in terms of clarity of the questions, accuracy of the knowledge and practice of physiotherapy, and interpretability. This process reduced the number of items to 102 questions. Then these questions were sorted out into three questionnaires, out of that one for the cancer patients, one for the Physiotherapists and one for the Oncologists. The formed questions were sorted appropriately and corrected after the opinion from the experts. The pattern of the arrangement of the questions were analysed many times and were sorted again. The questionnaire for the patient has been applied to few patients who were available during the process and the feasibility of answering the questions were analysed and the question pattern were changed accordingly.

Theoretical framework was used to capture patient satisfaction, how patients perceive their experiences navigating through the delivery of care, and how the process affects the patient’s health. Some of the items were added to elicit satisfaction with the patients’ understanding of their condition, their personal influence over their treatment plans, and the likelihood of behaviour modification. The authors revised the items to ensure that all were clearly positive or negative in their form, as well as straightforward in their meaning. After revision, all the items on which all the co-authors agreed were included in the raw questionnaire, which was then applied to the sample of cancer patients.

Content Validation of the questionnaires:

Items were generated paying particular attention to content validity. The initial version of the questionnaire was piloted and assessed on psychometric criteria. Items which did not reach acceptable validity were excluded. This was done in following steps:

**Step I: Selecting a Panel of Reviewers:**

Content validity relates to the degree to which a sample of items constitutes an adequate operational definition of a concept. The Standards for Educational and Psychological Testing emphasizes the necessity of relevant training, experience, and qualifications in selecting content experts to review instruments. To determine the content validity of the items, we identified 25 jury members (Twelve registered physiotherapists, six registered Oncologists, seven registered Nurses) and 20 patients participated as key informants for systematically judging the relevance and usefulness of the items. Participant demographics are described in the Table 1.

Jury members were selected primarily on the basis of their area of responsibility, interest and experiences regarding cancer rehabilitation. In selecting patients, a purposeful sampling was used to identify respondents according to the language proficiency, age and treated for cancer. Participants were informed about the purpose of the questionnaire. The participants assessed whether the items seemed to cover essential aspects of the cancer rehabilitation.

**Step II: Content Validity (Qualitative Assessment):**

Content validity was done for all the three questionnaires. A study protocol was compiled to elicit feedback on the relevance of the items. The jurors were mailed a packet, which included a covering letter, reply envelope, Content validation acceptance/non-acceptance form, Content validation certificate, questionnaire and instructions to assess content with checklist to get the feedback from the jurors. Jurors were instructed to provide feedback regarding the directions of instrument items, and overall instrument regarding the verification of the appropriateness of the content. All of the jurors’ comments were reviewed, and
appropriate changes were made to improve the overall quality of the questionnaires.

**Step III: Face validity (Qualitative Assessment):**
A patient focus group was conducted to establish the face validity of the questionnaire for the patients. Twenty patients were asked to fill a draft of the questionnaire, and to document the length of time it took and to determine whether the questions were clear, understandable, and in a logical order. We wanted to know whether: (1) the items were realistic to carry out; (2) the layout was easy to use; and (3) the workload required was acceptable. Participants were given the questionnaire in the morning and asked to provide verbal feedback to one of the researchers on the following day.

**Step IV: Quantitative Assessment:**
After completion of revisions of the qualitative reviews, a quantitative assessment packet had been mailed to each juror. Jurors were asked to rate the appropriateness of each item/question by stating if each item was “essential,” “useful but not essential,” or “not necessary.” After receiving each juror’s ratings, values were entered into a statistical spreadsheet. The content validity ratio (CVR) was calculated for each item/question based on the formula developed by Lawsche:\(^23\):

\[
\text{CVR} = \frac{n_e N - 2N}{N^2}
\]

Where, \(n_e\) = number of jurors indicating “essential” and \(N\) = total number of jurors.

Calculated CVRs were then compared to the levels required for statistical significance. A minimum CVR value of 0.75 was necessary for statistical significance at \(P<0.05\) based on 15 jurors.

**Step V: Questionnaire finalization:**
The final questionnaire for the patients consisted of total 34 items organized in 4 sections. The first section (7 items) referred to the patients’ personal details including the disease history. The second section (6 items) referred to the patients’ disease symptoms and difficulties. The third section (13 items) referred to the questions about the physiotherapy treatment received by the patients (for what problem, assessment, received treatment etc). The final section (8 items) referred to the patients’ satisfaction with services provided and their ability to use the information they learned. Satisfaction was measured using Likert scale responses (3 = Strongly agree, 2 = Agree, 1 = Disagree, 0 = Strongly disagree). This Likert scale was chosen because it has been used commonly in patient satisfaction questionnaires and is therefore familiar to patients.

The final questionnaire for the physiotherapists consisted of total 24 items organized in 2 sections. The first section (14 items) referred to the physiotherapists’ education, practice details and the case load. The second section (10 items) referred to the physiotherapists’ knowledge and practice pattern (assessment, treatment, choices etc) in cancer rehabilitation. The last item in this section is made to rate the professional approach towards cancer rehabilitation using Likert scale responses (3 = Always, 2 = Often, 1 = Sometimes, 0 = Never). This item consists of 6 sub-items.

### Table 1 - Participant demographics for Face and Content validity

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Patients</th>
<th>Physiotherapists</th>
<th>Oncologists</th>
<th>Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years) Mean ± SD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48.6 ± 12.5</td>
<td>35±1.2</td>
<td>51±2.9</td>
<td>42±10.4</td>
<td></td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>13</td>
<td>10</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>7</td>
<td>2</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td><strong>Type of cancer</strong></td>
<td>Lung</td>
<td>Lymphoma</td>
<td>Oral</td>
<td>Prostate</td>
</tr>
<tr>
<td></td>
<td>Oral</td>
<td></td>
<td>Breast</td>
<td>Intestine</td>
</tr>
</tbody>
</table>

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The final questionnaire for the Oncologists consisted of total 25 items organized in 3 sections. The first section (10 items) referred to the oncologists’ work experience and case load details. The second section (6 items) referred to the Oncologists knowledge about physiotherapy (symptoms require treatment, type of treatment etc) in cancer rehabilitation. The third section (9 items) referred to the details about the Physiotherapy referral and prescription pattern (number, frequency and type of referral etc) by the Oncologists.

Analysis and Results:

The results were analyzed both quantitatively and qualitatively (which involved looking at comments made by respondents). The inclusion of both open- and closed-ended questions/items was deemed necessary and appropriate by the panel of content jurors. Regarding face and content validity both patients and experts reported that the statements were clear, easy to understand, in a logical order, and totally representative of the cancer patients’ rehabilitation.

Qualitative analysis:

The subjective measures such as content validity and face validity were applied to assess the extent of coverage and comprehensibility of the survey, respectively. Evaluation of the face and content validity was performed by asking 20 patients and 25 health professionals, to evaluate the clarity and plenitude/ representativeness of the questions regarding the assessment of the pattern of physiotherapy practice for cancer patient’s rehabilitation.

Of 45 questionnaires mailed out (through e-mail, postal mail, by hand for the patients), 44 were returned. Out of that 97.2% response, a 52% response rate was based on the initial mailing and the remaining required second or third time reminder or re-sending of the documents. Because answering the survey questions requires proficiency in English and because the hospital serves many patients whose mastery of English is limited, we chose a sample of patients who were recently treated and having knowledge of English.

The questionnaire for the patients was reviewed by six physiotherapists, one oncologist and two Nurses. This step established content validity by having a sample of respondents verify that all areas intended to be measured by the questionnaire really were. Further, the questionnaire was applied to 20 cancer patients and survivors as focus group for the purpose of identification of the item difficulty and appropriateness. Some changes to wording were made in response to comments by the jurors written on the questionnaires, in order to reduce ambiguity and maximise the clarity of the questions in all the four sections. Some of the response patterns are also changed or modified to the most comfortable one according to the jurors' opinion. Even, on the basis of the analysis, few numbers of items were removed from the first section as well from the second section while others were judged to be too scientific and relevant to the concept. The Likert type response answering pattern was made easy by changing the way of answering.

According to Kline close ended response items are not useful if they are answered correctly by more than 80% or fewer than 20% of respondents. These indices were adjusted upwards slightly as the pilot sample was skewed towards characteristics which have previously been associated with better knowledge. Items were therefore rejected over 90% or below 30% of respondents answered them correctly. Some of the items which did not meet these criteria were retained on the grounds of content validity which was considered to be testing an essential item which is not covered elsewhere in the questionnaire.

The feedback from the focus groups consisted of patients identifying ambiguous items and suggesting additional items. Items were reworded to eliminate ambiguous phrasing. For instance, the word “revision” was replaced with “regular treatment”; “current pain level” was replaced with “specify pain level”. Issues that were addressed more extensively were cancer symptoms and problems and physiotherapy treatment for cancer. This step established face validity by having a sample of
respondents verify that all areas intended to be measured by the questionnaire really were. Combined with the content validity of the provided experts, the face validity of the patient focus group addressed all the variants of knowledge and patient satisfaction that are relevant to cancer rehabilitation.

The results showed that 16 of the 20 patients who participated in the pre-test of the questionnaire considered it to be easy to complete. Five participants considered the items on satisfaction of physiotherapy treatment to be irrelevant during hospitalization. Eight participants requested an easier layout to avoid misunderstanding. Participants needed 12 minutes (range 9 to 15) to complete the questionnaire. After scrutinizing the data from the test run, we revised the questionnaire and refined its layout to have the final questionnaire.

The questionnaire for the physiotherapists was reviewed by four physiotherapists, one Nurse and two oncologists. Content validity was established by having a panel of jurors who verified that all areas intended to be measured by the questionnaire really were. Many changes to wording were made in response to comments by the jurors written on the questionnaires, in order to reduce ambiguity as well as to maximise the clarity of the questions in both the sections. Some of the response patterns are also changed or modified to the most comfortable one according to the jurors’ opinion. Few of the items were reworded to eliminate ambiguous phrasing. For instance, the word “cancer diagnosis” was replaced with either “primary cancer diagnosis” or “secondary cancer diagnosis”. Some of the items like, coded responses for the treatment methods were appreciated by the jurors as they were formed accurately to collect the information.

In the first section four items were added to eliminate the result dilution chances by the therapists who treated the cancer patients very rarely compared to the therapists working in the exclusive cancer rehabilitation centres. Question regarding the professional registration also added in the first section. Even, on the basis of the analysis, few numbers of items were removed from the first section as well from the second section while others were judged to be too scientific and relevant to the concept. For example, two sub-items in the question number 1 were removed as they were felt unnecessary. The Likert type response answering pattern was made for the last item in the section 2 easy by changing the way of answering. This validation addressed all the variants of physiotherapy practice pattern that are relevant to disease management.

The questionnaire for the oncologists was reviewed by two physiotherapists, four oncologists and two Nurses. The Jurors found that the items are intended to be measured by the questionnaire really were. Feedback from these jurors identified the ambiguous items and suggesting additional items. Based on that, some changes to wording were made in response to comments written on the questionnaires, in order to reduce ambiguity and maximise the clarity of the questions. Total items were made into four sections from the two sections as they were suggested to put into the different categories. The last item in this section, made to rate the professional approach towards cancer rehabilitation using Likert scale responses (3 = Always, 2 = Often, 1 = Sometimes, 0 = Never) was then suggested to be removed as most of the jurors felt unnecessary/inappropriate. That last item was replaced by another question as per the suggestion from the Jurors.

So many items were reworded to eliminate ambiguous phrasing. Few items were removed in the first section and in the third and fourth section as they were found irrelevant or unnecessary. Further, in the third section, the order of the arrangement of the items was changed according to the suggestion from the reviewers. This step established face validity by having a sample of respondents verify that all areas intended to be measured by the questionnaire really were. The Likert type response answering pattern was made for the last item in the section 2 easy by changing the way of answering. This validation addressed all the variants of physiotherapy referral pattern that are relevant to disease management.
Quantitative analysis:

Most of the items were considered to be very important by jurors on three questionnaires. Table 2 shows the content validity ratios for the all three questionnaire items. The jurors deemed almost all the items on the Questionnaire for the patient significant (CVR ≥ 0.75, p<0.05). Out of 34 items, 6 items had the CVR of 0.80. Only two were considered non-significant (p<0.05) by the jurors. The second question in the first section (CVR=-0.60) and the seventh question in the third section (CVR=-0.40) were non-significant.

The jurors deemed almost all the items on the Questionnaire for the physiotherapists significant (CVR ≥ 0.75, p<0.05). Out of 34 items, 32 items had the CVR > 0.75. Only two were considered non-significant (p<0.05) by the jurors. The ninth and fourteenth questions in the first section (CVR=0.71) were non-significant. As per the further suggestions from some of the jurors and as that was felt applicable by the authors too, the number of items were reduced to 29 as there were some repetitions as well as to make it easy for answering. So instead of keeping separate questions on primary and secondary cancer diagnosis, only questions are formed as simply cancer diagnosis.

The jurors deemed most of the items on the Questionnaire for the Oncologists significant (CVR ≥ 0.75). Out of 30 items, 20 items had the CVR > 0.75. Ten items were considered non-significant (p>0.05) by the jurors. The last item of the third section which consisted of 6 sub items was found non-essential (CVR<0.75, p>0.05) by the jurors and they were suggested to be removed. Even 4th question in the second section and 3rd, 7th, 8th questions in the third section were also found non-significant (CVR< 0.75, p>0.05).

Discussion:

We had described the step wise procedures required to develop and content validate written questionnaires to evaluate the current status of physiotherapy practice in the cancer rehabilitation. Although these questionnaires were developed and content validated for the cancer patients’ rehabilitation, answered by the physiotherapists, oncologists and the cancer patients themselves, many of the items can be used in other disease rehabilitation also.

To avoid the risk of unreliable measurement, considerable effort was put into the development of items. Questionnaire items were identified through literature reviews and mostly developed by self and with the experts’ opinion. The initial support was given for content validity and face validity. The use of a conceptual framework with a theoretical definition combined with individual and focus group interviews with patients, physiotherapists, registered nurses and Oncologists provided a thorough analysis underlying the development of the questionnaire.

There is no consensus on the number of experts needed in the content validity process while some authors suggest three participants while others suggest between 10 and 20 and some authors have been using even larger numbers. We had used 7-9 experts for the each questionnaire for the purpose of content validation. The intent of the present study at this level is to include the number of experts that we considered necessary to acquire the detailed information. So, to capture the core of the physiotherapy practice pattern in cancer rehabilitation, we found it important to include both patients and experts and analyze the data as a joint group.

Participants had the opportunity to describe their viewpoints in detail and to ask clarifying questions either in person, mail or phone. Correspondingly, the researcher could check that the participants had understood the task they were given. In addition to the identification of the physiotherapy treatment available for the cancer patients, the questionnaire assesses patients’ satisfaction with the treatment.

The most important and distinctive feature of these questionnaires is that they not just assess the patients’ satisfaction with the physiotherapy treatment role in cancer rehabilitation, but also the physiotherapists and the oncologists view of the practice of physiotherapy treatment in cancer rehabilitation. So these questionnaires are designed to
Table 2: Content Validity Ratios (CVRs) for all the three Questionnaire Items

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Section</th>
<th>CVR in Patient Questionnaire</th>
<th>Section</th>
<th>CVR in Therapist Questionnaire</th>
<th>Section</th>
<th>CVR in Oncologist Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Section-I Personal Details</td>
<td>1.0*</td>
<td>Section-I Basic Information &amp; Case load</td>
<td>1.0*</td>
<td>Section-I Work Experience &amp; Case load</td>
<td>1.0*</td>
</tr>
<tr>
<td>2.</td>
<td>Section-II Disease Symptoms</td>
<td>-0.60*</td>
<td>Section-II Knowledge &amp; Practice in Cancer</td>
<td>1.0*</td>
<td>Section-II Knowledge &amp; Practice in Cancer Rehabilitation</td>
<td>1.0*</td>
</tr>
<tr>
<td>3.</td>
<td>Section-II Knowledge &amp; Practice in Cancer</td>
<td>0.75*</td>
<td>Section-III Physiotherapy</td>
<td>1.0*</td>
<td>Section-III Physiotherapy Referral &amp; Prescription Pattern</td>
<td>0.71*</td>
</tr>
<tr>
<td>4.</td>
<td>Section-III Physiotherapy Treatment</td>
<td>1.0*</td>
<td>Section-III Physiotherapy Referral &amp; Prescription Pattern</td>
<td>0.43*</td>
<td>Section-IV Satisfaction</td>
<td>1.0*</td>
</tr>
<tr>
<td>5.</td>
<td>Section-III Physiotherapy Treatment</td>
<td>1.0*</td>
<td>Section-IV Satisfaction</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
</tr>
<tr>
<td>6.</td>
<td>Section-III Physiotherapy Treatment</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
</tr>
<tr>
<td>7.</td>
<td>Section-III Physiotherapy Treatment</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
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<td>8.</td>
<td>Section-III Physiotherapy Treatment</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
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<tr>
<td>9.</td>
<td>Section-III Physiotherapy Treatment</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
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<td>10.</td>
<td>Section-III Physiotherapy Treatment</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
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<td>11.</td>
<td>Section-III Physiotherapy Treatment</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
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<td>12.</td>
<td>Section-III Physiotherapy Treatment</td>
<td>0.80*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
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<tr>
<td>13.</td>
<td>Section-III Physiotherapy Treatment</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
</tr>
<tr>
<td>14.</td>
<td>Section-III Physiotherapy Treatment</td>
<td>0.80*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
</tr>
<tr>
<td>15.</td>
<td>Section-III Physiotherapy Treatment</td>
<td>0.75*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
<td>Section-IV Treatment Satisfaction</td>
<td>1.0*</td>
</tr>
<tr>
<td>16.</td>
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* - All jurors considered this to be an “Essential” question/item. (Statistically Significant)
# - Most of the jurors considered this to be an “Essential” question/item. (Statistically Significant)
\* - Not statistically significant and were eliminated from the final instruments.
analyze the role of physiotherapy treatment in cancer rehabilitation. Whereas other patient satisfaction surveys measure selected aspects of cancer care like chemotherapy or radiotherapy, no other survey includes an array of items that covers all of the components related to the physiotherapy encompassed by these questionnaires.

The test-run of the questionnaire showed that it was easy to understand, even if some minor layout adjustments were necessary to make it easier to use. Furthermore, the result of the test-run demonstrated that it was consuming 12 minutes (range 9 to 15), although we found variation in the time needed to complete the questionnaire. This could probably be explained by individual variances in reading skills, the ability to absorb information and the time needed to respond before answering a question. It could also be age-related.

As well as achieving statistical significance in terms of validity, the initial process by which the items were generated ensured that all aspects of the subject area were covered, and thus the content validity, though not statistically measurable, was undoubtedly high. Further, we did not need to eliminate any items after the judgement of content validity.

There could be objections against the use of staff members also as experts when developing a patient-oriented measurement tool. However, although patients are the only ones having subjective experiences, staff members may be the best observers of the outward manifestations of post-operative recovery by being the practitioners. Furthermore, it might be argued that a 19-item instrument is too extensive.

Conclusion:

Based on a theoretical framework and empirical data, we have developed three questionnaires to measure the physiotherapy practice pattern, referral pattern and knowledge about the physiotherapy of the cancer patients and survivors, physiotherapists and the oncologists in cancer rehabilitation. Initial support for content validity was established. Future studies are warranted for the exploration of the existing status of physical therapy practice in cancer rehabilitation in south India.

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Conflicts of interest:

None identified and/or declared.

References:


Technical report


APPENDIX:

Full version of the questionnaire is available on request [Copyright © Journal of Physical Therapy].