Measuring Tridoshas in Cancer Patients - A Pilot Study

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Abstract

Background: Ayurveda asserts that, the increase or decrease in the status of tridosha (Vata, Pitta, Kapha) is the cause for the manifestation of all the diseases. Cancer is explained as Arbuda and vata and kapha vriddhi (increase) is referred as cause by Ayurveda classics. Studies are available on the relationship between prakrti (constitution) of an individual and diseases. No studies are available on vitiation of tridosha.

Method: Design of the study was descriptive type. Sampling design was purposive sampling. Tridosha diagnosis scale (TDS), interviewer based, which consists 97 items: for Vtaja vriddhi, 14 items for Vata kshaya: 16 items for Pittaja vriddhi, 11 items for Pitta kshaya: 20 items for Kaphaja vriddhi and 15 items for Kapha kshaya: was developed which had reliability above 0.7 for all subscales of TDS. TDS was administered on 5 cancer patients, (three were lung cancer, two were of liver cancer) recruited from Arogyadhama hospital of SVYASA university, Bangalore.

Results: It was found that, there were more vata vriddhi and kapha vriddhi laskhanas in cancer patients (more than 40%) in both vata vriddhi and kapha vriddhi scales.

Conclusions: The present study has given good basis for further study on larger samples to confirm statistically the findings of study which may in turn may point for specific plan and diet regime based on tridosha.

INTRODUCTION

Cancer may be regarded as a group of diseases characterized by abnormal growth of cells. ii. Ability to invade adjacent tissues and even distant organs [1]. Derangement of controlling system, homeostatic system, altered gene expression are the biological basis of the cancer (In cancer genes controlling DNA damage and repair are affected) [2].

Ayurveda, vedic medical science, is essentially based on triodoshas -Vata, Pitta and Kapha. Metabolic principles which control the function of soma and mind. Definition of healthy person according to Ayurveda is in whom there is equilibrium of doshas, dhatus, malas, tranquility of mind, blissfulness which is similar to WHO definition. Ayurveda proclaims- rogastu dosha vaishamyam, dosha samyam arogataa - vitiation of dosha is disease, equilibrium of doshas gives health. Accordingly Ayurveda recommends specific diet and daily regime for different types of personalities to maintain health.

Ayurveda typologies of diseases are based on tridoshas. The treatment principle of Ayurveda is individualistic and depends on the predominance of dosha which is involved [3-10].

Ayurveda scriptures elucidate cancer as ‘Arbuda’, severity of granthi (abcess) and hypothesize pathogenesis of cancer as the results of increase in Vata and Kapha, which in-turn vitiates mamsa (muscle tissue), rakta (blood), medo (lipid tissue) and results in the manifestation of granthi or arbuda [3].

There are six types of arbuda - Vataja, Pittaja, Kaphaja, Raktaja, Mamsaja, Medoja and the method of management of the different types, are unique. For example: for vataja arbuda sweating - sweda treatment is given and for pittaja arbuda vomiting is given.

Studies have discussed the importance of Ayurveda [11], Tridoshas [12-15]. A Statistical model of Dosh Prakriti based on analysis of a questionnaire has been developed [16]. An analysis of Tridoshas physiology, linking it to process of cellular physiology has been carried out [17,18]. Similarly a genetic basis of Tridosha constitution has been postulated [19-22]. A study comparing the Ayurveda personality concepts and western psychology concepts is available [23]. Ayurveda Tridosha theory and four elements of Buddhist medicine, Chinese humorology have been compared [24,25]. Importance of Prakriti in aging has been discussed [26].
Effects of isotonic exercise on different type of Prakrti have been observed [27]. Differences in metabolism of different prakrti have been explained [28]. Left and right hemisphere chemical, dominance has been observed with predominance of doshas [29]. A scale to measure tridoshas in psychotic patients has been developed [30]. Child Personality inventories to measure tridoshas in children has been standardized [31,32]. Studies have demonstrated the efficacy of Ayurveda drugs like Withenia, curcumin etc on cancer [33-38].

The objective of the present study was to develop a interviewing scale for measuring vitiation of tridoshas and measuring the status of tridoshas in cancer patients.

NEED FOR THE PRESENT STUDY

Concepts of ancient Ayurveda are based on prakrti-constitution and vikrti-vitiation of doshas which play a major role in planning of the treatment. Diagnosis is very important step in management of a disease. Once the dosha involved in the disease is diagnosed diet pattern can be advised accordingly along with specified drugs for each doshas. For example-if vata is predominant, one should avoid bitter, spicy, astringent taste foods, he can consume sweet, sour, salty foods.

According to conventional medicine there are many categories of cancer based on the organ involved and state of cancer. If we can classify the varieties of cancer based on tridoshas, specific drugs and panchalarma-vamana (emesis) for kapha, virechana (purgation for pitta), basti (enema) for vata can be administered and clinical significance can be established.

By literature review, there are studies on Ayurveda drugs on cancer, but not on Ayurveda diagnosis. So, we have taken this current study to establish Ayurveda diagnosis.

METHODS

There were two objectives of the study.
1. To develop a tridosha diagnosis scale
2. To measure tridoshas in cancer patients

It is an Observational, Descriptive type of study. The study has the design of co-relational study, in which the relationships between the three variables are studied. This is one time interview based assessment. Sampling design is purposive sampling.

Development of tridosha diagnosis scale

The tridosha diagnosis scale (TDS) developed based on hundred and ten Sanskrit characteristics from nine authoritative ancient Ayurveda texts describing characteristics typical of Vātaja, Pittaja and Kaphaja vridhi, kshaya (characteristics of increased or decreased doshas). Item reduction was carried out by deleting the repeated items, ambiguous items, 110 items, describing vridhi, kshaya lakshana of Vata, Pitta and Kapha were collected, and translated to English. They were presented to ten Ayurveda experts for content validity. They were asked to judge the correctness of each statement and to check

1. If the items constructed represented acceptable translation of the Sanskrit in the original texts.
2. Whether any of the items were repeated or if any item should be added?
3. Whether the features of Vātaja, Pittaja and Kaphaja vikrti selected for the scale is correct

Based on their comments some of the items were selected, some of items were removed, some changed and refined. Finally 97 questions of TDS were framed. The scale was again presented to five Ayurveda experts and one psychologist who reviewed the format of this scale and recommended a two point scoring (0 and 1); this was adopted in the final TDS.

Data collection and analysis

Item difficulty level was analyzed by administering the scale on 10 samples of the age group 25-52 years.

For testing the reliability and validity, the final scale of 97 items was administered on 30 subjects from Arogyadhama of SVYASA, University, Bangalore; of both sex with an age range of 25 to 52 years. Subjects with the history of Diabetes, Back pain, Knee pain, Acidity were included in the study. The patients with chronic illness, Cardiac diseases were excluded.

Measuring tridoshas in cancer patients

TDS was administered on 5 cancer patients

Three patients who were diagnosed as having lung cancer 1st stage,

Two patients who were diagnosed as having liver cancer 1st and 2nd stage from Arogyadhama of SVYASA, University, Bangalore were included in the study.

RESULTS

Content validity

Amongst ten experts, who served as judges 97 questions were agreed by all.

Internal consistency

An analysis of the data collected from 30 samples showed the Cronbach’s alpha is at acceptable range [28].

Correlation results

Vata vridhi correlated significantly negatively with kapha kshaya (-0.892), vata kshaya (-0.62) and positively with kapha ksyaya (0.375)

Pitta vridhi correlated significantly negatively with Pitta kshaya (-0.457) and positively with kapha ksyaya (0.909)

Kapha vridhi correlated significantly negatively with Vata kshaya (-0.892), kapha kshaya (-0.472) and positively with vata ksyaya (0.439).

DISCUSSION

The current study has described the measurement of status of tridoshas in cancer patients after developing a 97 item tridoshas diagnosis scale.
Items were generated from Sanskrit statements described in authoritative texts of Ayurveda. Content validity was established by taking opinion of ten Ayurveda experts. The reliability of subscales of TDS was supported by the Cronbach’s-α coefficient and the split half analysis. This provided the evidence of stability over items. (Table 1,2)

Applying the scale on cancer patients it was found that there is more vata vridhhi and kapha vridhhi lakshanas, compared to pitta vridhhi which in turn supported the concurrent validity of the scriptural information.

Strength of the study is it is the first attempt to develop a scale to measure vikrti and applying on cancer patients. Measuring the vitiation of tridosha is an important part, as it plays role in treatment plan and diet regime and it is mentioned in scriptures that nidana parivarjana (avoiding the cause is the main treatment plan, for which diet regime is helpful according to the vitiation of the doshas.

LIMITATIONS OF THE STUDY

Though TDS is associated with good reliability, application of scale on cancer patients is not supported by statistical analysis and sample size is less.

CONCLUSIONS

The present study has given good basis for further study on larger samples to confirm statistically the findings of study which may in turn may point for specific treatment plan and diet regime based on the vitiation of vata and kapha.

### Table 1: Reliability coefficients of the tridosha subscales.

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Cronbach’s alpha for vridhhi</th>
<th>Cronbach’s alpha for kshaya</th>
</tr>
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<tbody>
<tr>
<td>Vata</td>
<td>0.939</td>
<td>0.945</td>
</tr>
<tr>
<td>Pitta</td>
<td>0.853</td>
<td>0.867</td>
</tr>
<tr>
<td>Kapha</td>
<td>0.942</td>
<td>0.785</td>
</tr>
</tbody>
</table>

Table 1 gives the reliability coefficients of Vata, Pitta and Kapha subscales ranging above 0.7

### Table 2: Split half reliability coefficients of the tridosha subscales.

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Split half reliability for vridhhi</th>
<th>Split half reliability for Kshaya</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vata</td>
<td>0.927</td>
<td>0.962</td>
</tr>
<tr>
<td>Pitta</td>
<td>0.883</td>
<td>0.848</td>
</tr>
<tr>
<td>Kapha</td>
<td>0.960</td>
<td>0.688</td>
</tr>
</tbody>
</table>

### Table 3: Scores of cancer patients.

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Scores with SD values of five subjects in tridosha diagnosis scale P&lt;0.5.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vata</td>
<td>11.4±1.4 (45%)</td>
</tr>
<tr>
<td>Pitta</td>
<td>5.4±4 (9%)</td>
</tr>
<tr>
<td>Kapha</td>
<td>9.8±0.8 (45%)</td>
</tr>
</tbody>
</table>

### REFERENCES


25. Tripathi PK, Patwardhan K, Singh G. The basic cardiovascular responses to postural changes, exercise, and cold pressor test: do they vary in accordance with the dual constitutional types of ayurveda? Evid Based Complement Alternat Med. 2011.


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