INTRODUCTION
A couple is considered infertile when pregnancy does not ensue after 2 to 3 years of marriage during which time intercourse was indulged in sufficiently and frequently and at the propitious time in the menstrual cycle. In 1958 Buxton and Southam stated that in approximately 10% of the marriages there is difficulty in producing pregnancy and the husband may be partly or completely responsible for subfertility in 40% of couples. In the present study the results obtained by the use of an indigenous, non-hormonal preparation Speman (Himalaya) are compared to the results of another series treated with different hormonal preparations. The purpose of this article is to show that although it may not be possible to achieve a successful pregnancy in every couple, non-specific use of the indigenous drug Speman may prove worthwhile, particularly where any specific pathology is not detectable.

COMPOSITION
Each Speman tablet contains
Lactuca scariola 16 mg
Orchis mascula 65 mg
Hygrophila spinosa 32 mg
Mucuna pruriens 16 mg
Ext. Parmelia perlata 16 mg
Argyreia speciosa 32 mg
Tribulus terrestris 32 mg
Leptadenia reticulata 32 mg
Suvarnavang (Mosaic Gold) 16 mg

MATERIAL AND METHODS
One hundred and forty six cases of primary sterility attended the M.K.C.G. Medical College Hospital, Berhampur, Orissa from January 1979 to October 1983. The cases where abnormality was detected with female partners were treated by the gynaecologist, while those cases where the cause was attributed to males were taken up for this study.

A detailed clinical history about age, occupation, the duration of the present marriage, frequency and success of sexual intercourse, trauma to testis, history of mumps, orchitis, veneral diseases, torsion of testicles, any operation in the inguino-scrotal region, wearing tight fitting underwears, etc were taken into account. Thorough physical examination of the genital organs, inguino-scrotal and perineal regions was carried out.

Seminal analysis was done on a minimum of two occasions after at least three days of abstinence. It was collected in a suitable glass container and analysed within 4 hours of collection. The volume, sperm density, motility, morphology of the head, body and tail, and fructose content were determined.

Testicular biopsy was done in patients with abnormal seminal values. Biopsy specimens were taken from both the testes under general anaesthesia. The biopsies were scored as described by Johnson in
1970. Briefly at least ten tubular cross sections were rated from one to ten and a mean score calculated. Buccal smears of sex chromatin studies were carried out in selected cases.

Management
A. The general measures adopted were:
   (i) Frequency of intercourse was adjusted to the most fertile period (12th to 18th day of the cycle). Too frequent coitus in the other periods was avoided.
   (ii) The scrotum was kept at least 2°C cooler than the rest of the body by wearing loose fitting underwears and by scrotal douches with cold water twice daily.
   (iii) Regular exercise and maintenance of genital hygiene.
   (iv) Balanced, nutritious diet with milk, egg, vit. B complex, vit. C and germinated green gram was advised.
   (v) Restriction of tobacco and alcohol.
   (vi) Antibiotics where infection was present (mostly long-acting penicillin weekly once for 6 weeks).
B. Treatment of associated diseases like diabetes, hypertension, tuberculosis, filariasis, gonorrhoea etc.
C. Surgery performed where indicated.
D. Speman in the doses of 2 tablets thrice daily for nearly 6 to 9 months.

RESULTS
Among 146 patients, 78 females were at fault and were excluded from this study. Forty two cases where males were at fault and 26 cases where both male and female partners were at fault (a total 68 cases) were taken up for study in this series. The maximum number of cases presented in the age group of 25-30 years, comprising 64.7%. Fifty patients were cultivators by occupation. Smoking in various forms was found in 48 patients and 32 patients were in the habit of using tight underwears. Alcoholism was present in 20 cases. Operation on the inguino-scrotal region was found in 8 patients. History of mumps and trauma to testes was present in 4 patients each.

Thirty six patients came for medical help after 2–4 years of their marriage and 22 patients within 2 years of marriage. About associated diseases, varicocele was detected in 6 cases, tuberculosis in 4 cases, and hypertension and diabetes in 3 and 2 cases respectively.

Examination of genital organs revealed undescended testes in 4 cases, prostatitis in 8 cases, varicocele in 6 cases, hypospadias in 2 cases and small testicles in 2 cases.

Seminal fluid analysis was carried out according to volume, sperm count, motility and morphology. Volume of fluid was more than 3 ml in 40 cases. Sperm counts of 15-20 million/cc were present in 38 cases. More than 40% motile spermatozoa were found in 10 patients. Spermatozoa of normal morphology were present in 48 patients (60-80%) (Table 1).

<table>
<thead>
<tr>
<th>Vol. of fluid</th>
<th>Volume</th>
<th>No. of patients</th>
<th>Sperm count/cc</th>
<th>No. of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1 ml</td>
<td>2 (2.9%)</td>
<td>0 – 5 million/cc</td>
<td>1 (1.4%)</td>
<td></td>
</tr>
<tr>
<td>1 – 2 ml</td>
<td>7 (10.2%)</td>
<td>5 – 10 million/cc</td>
<td>7 (10.2%)</td>
<td></td>
</tr>
<tr>
<td>2 – 3 ml</td>
<td>19 (28.0%)</td>
<td>10 – 15 million/cc</td>
<td>12 (17.6%)</td>
<td></td>
</tr>
<tr>
<td>&gt; 3 ml</td>
<td>40 (58.8%)</td>
<td>&gt; 20 million/cc</td>
<td>38 (55.8%)</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: (Contd.)
A total number of 10 cases were subjected to testicular biopsy on the basis of abnormal seminal analysis and 9 patients showed a score count below 8. Buccal smear for presence of Barr bodies was negative in all cases.

General measures and Speman tablets were tried in all the 68 cases. Out of 68 patients receiving Speman tablets, there was improvement in sperm count in 48 patients and improvement in motility in 32 patients at the end of 9 months treatment (Table 2).

<table>
<thead>
<tr>
<th>Motility at 4 hours of collection</th>
<th>No. of patients</th>
<th>Percentage of spermatozoa of normal morphology/cc</th>
<th>No. of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 10%</td>
<td>1 (1.4%)</td>
<td>0 – 20%</td>
<td>1 (1.4%)</td>
</tr>
<tr>
<td>10 – 20%</td>
<td>3 (4.4%)</td>
<td>20 – 40%</td>
<td>2 (2.9%)</td>
</tr>
<tr>
<td>20 – 30%</td>
<td>14 (20.5%)</td>
<td>40 – 60%</td>
<td>6 (8.8%)</td>
</tr>
<tr>
<td>30 – 40%</td>
<td>40 (58.8%)</td>
<td>60 – 80%</td>
<td>48 (70.5%)</td>
</tr>
<tr>
<td>&gt; 40%</td>
<td>10 (14.7%)</td>
<td>&gt; 80%</td>
<td>11 (16.1%)</td>
</tr>
</tbody>
</table>

**Table 2**: Results of Speman tablets with general measures

<table>
<thead>
<tr>
<th>No. of patients treated</th>
<th>Criterion</th>
<th>3 months</th>
<th>6 months</th>
<th>9 months</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>68</td>
<td>Sperm count</td>
<td>Nil</td>
<td>12</td>
<td>48</td>
<td>70.5%</td>
</tr>
<tr>
<td>68</td>
<td>Sperm motility</td>
<td>22</td>
<td>28</td>
<td>32</td>
<td>47.0%</td>
</tr>
</tbody>
</table>

Surgery like orchidopexy, varicocelectomy and repair of hypospadias, was done in 4, 6 and 2 cases respectively but there was no conception this group. Eighteen patients (26.4%) reported conception following treatment. No incidence of conception was noted in the remaining fifty patients (73.5%) (Table 3).

**Table 3**: Conception after treatment

<table>
<thead>
<tr>
<th>Total no. of patients treated</th>
<th>No. of patients where conception was reported</th>
<th>No. of patients where no conception occurred</th>
</tr>
</thead>
<tbody>
<tr>
<td>68</td>
<td>18 (26.4%)</td>
<td>50 (73.5%)</td>
</tr>
</tbody>
</table>

**DISCUSSION**

Out of the total 146 cases examined and investigated, defects in male partners were detected in 28.7% and defects in both the partners were noted in 17.1% cases. Buxtion and Southam reported 20% defects in the male and another 20% where both males and females are at fault. The maximum number of patients were in the age group of 25-30 years (64.7%). Working for long hours in a very hot climate was found in 10.2% patients. Thirty two patients were in the habit of using tight underpants. In 1945 Badenoch and in 1954, Davidson have shown that for effective spermatogenesis the scrotum should be at least 2°C cooler than the rest of the body; hence this occupational history and habit of using tight underpants were important. Addiction to tobacco in 48 patients and to alcohol in 20 patients was detected. Most patients were farmers from rural areas and they considered them to be stimulants for working long hours. The importance of excess of tobacco and alcohol in the depression of sperm count has been shown by Hendry et al in 1976.

In 1976 Hendry described the importance of sexual history in the management of fertility problems. Frequent intercourse causes release of immature spermatozoa into the genital tract, which often get destroyed in the genital tract. Persons having oligospermia should be advised not too have frequent coitus. Intercourse should be planned only during the most receptive period (12th to 18th day of the cycle).
In 1970, Johnson, Pohl, Rivera Correa described how varicocele may be found in 10% of the normal population and 20% amongst men attending the subfertility clinics. In our series varicocele was present in 6 patients (8.8%). The reason for subfertility in cases of varicocele is due to an increase in temperature of the entire scrotum with resulting bilateral depression of spermatogenesis.

In our series, 58.8% patients had a seminal volume more than 3 ml/ejaculate and less than 1 ml was seen in 2.9% only. The lowest limit for fertility was considered to be 1.5 ml/ejaculate by Macleod, but subsequently Santomauro and Sciarrano in 1972 denied any such rigid criteria and said emphasis should be laid on total motile count than the volume. Eighty five per cent of patients in our study were having counts lower than 20 million/cc. The normal sperm count has been variously estimated by different authors like 10 million/cc as the lowest limit by Santomauro and Sciarrano and 20 million/cc by Macleod. Active motility of at least 40% spermatozoa within 4 hours of collection was required for favourable prognosis. In our series 58 patients (85.1%) showed motility less than 40% at 4 hours. Value of motility studies cannot be relied upon unless compared with a group of men of normal fertility, which was not undertaken in this study. However, Santomauro and Sciarrano by doing five comparative studies showed motility more than 40% as an important mark of fertility potential. Jeffcote has shown that more than 50% abnormality of sperm morphology only causes subfertility. In the present study, only 13.2% patients showed morphological abnormality.

In 1973 Hendry mentioned that the role of testicular biopsy in the management of male infertility is controversial. Testicular biopsy was done in a few cases on the evidence of abnormal semen analysis. According to the criteria of Johnson score counts were obtained. Score counts below 8 were considered of bad prognostic value. In 1969, Rowley and O’Keefe reported that temporary inhibition of spermatozoa occurred after biopsy. Sex chromatin studies were done in all cases but no abnormality was detected.

In the management of the patients, associated diseases were treated adequately. Surgery was performed where indicated. All the 68 patients were treated with general measures and with Speman tablets. Forty eight patients (70.5%) had improvement in sperm counts at the end of 9 months of treatment and 32 patients (47%) had improvement in motility. Then the results were compared with those obtained in various other series (Table 4).

<table>
<thead>
<tr>
<th>Name of the author</th>
<th>Name of the drug</th>
<th>No. of patients</th>
<th>No. of conceptions</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walter Futterwelt</td>
<td>Gonadotrophins</td>
<td>27</td>
<td>10</td>
<td>37.0</td>
</tr>
<tr>
<td>John M. Daneziz</td>
<td>Gonadotrophins</td>
<td>11</td>
<td>2</td>
<td>18.2</td>
</tr>
<tr>
<td>Tom M.C. M. et al</td>
<td>Mesterolone</td>
<td>41</td>
<td>9</td>
<td>21.9</td>
</tr>
<tr>
<td>Rowley M.J. et al</td>
<td>Testosterone</td>
<td>163</td>
<td>67</td>
<td>41.1</td>
</tr>
<tr>
<td>Palti Z.</td>
<td>Clomiphene</td>
<td>69</td>
<td>5</td>
<td>7.2</td>
</tr>
<tr>
<td>Dandapat Mohapatra et al</td>
<td>Speman</td>
<td>68</td>
<td>18</td>
<td>26.4</td>
</tr>
</tbody>
</table>

The indigenous drug Speman has shown merit for further organised and scientific study to prove specifically its efficacy for the correction of defective spermatogenesis. Though the mode of action of the indigenous drug and the active principles are not known, the results show that Speman is effective. Conception occurred in 18 (26%) of patients after treatment. The failures might be due to some other pathology as yet undetermined by ordinary parameters in this series. In 1978, Wall Stedronska et al stated that the antibodies to human spermatozoa play a part in the pathogenesis of infertility. Sperm antibodies may be present in the husband or in the wife and may be of the agglutinating or sperm immobilising type (Kibrick, Belding and Merril, 1952).

**SUMMARY**
Sixty eight male patients with subfertility were investigated and treated. Besides giving due importance to wearing of loose underwears, intercourse during the most receptive periods, adequate nutritious diet containing egg, vitamin E, germinated green gram etc., regular exercise and genital hygiene in the general management, an indigenous drug Speman was administered to all the patients. Forty eight patients had improvement in sperm count and thirty two had improvement in sperm motility at the end of nine months of treatment. This improvement in total sperm count and their motility was comparable to various other series treated with either gonadotrophins, mesterolone, testosterone or clomiphene citrate. The indigenous drug Speman is inexpensive and showed no side effects. The conception rate achieved in this study was twenty six per cent.

REFERENCES