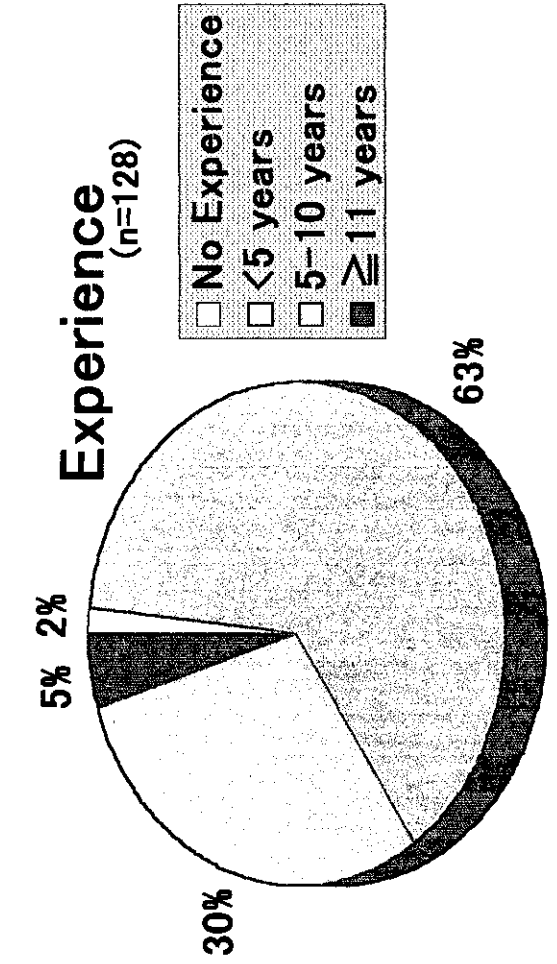
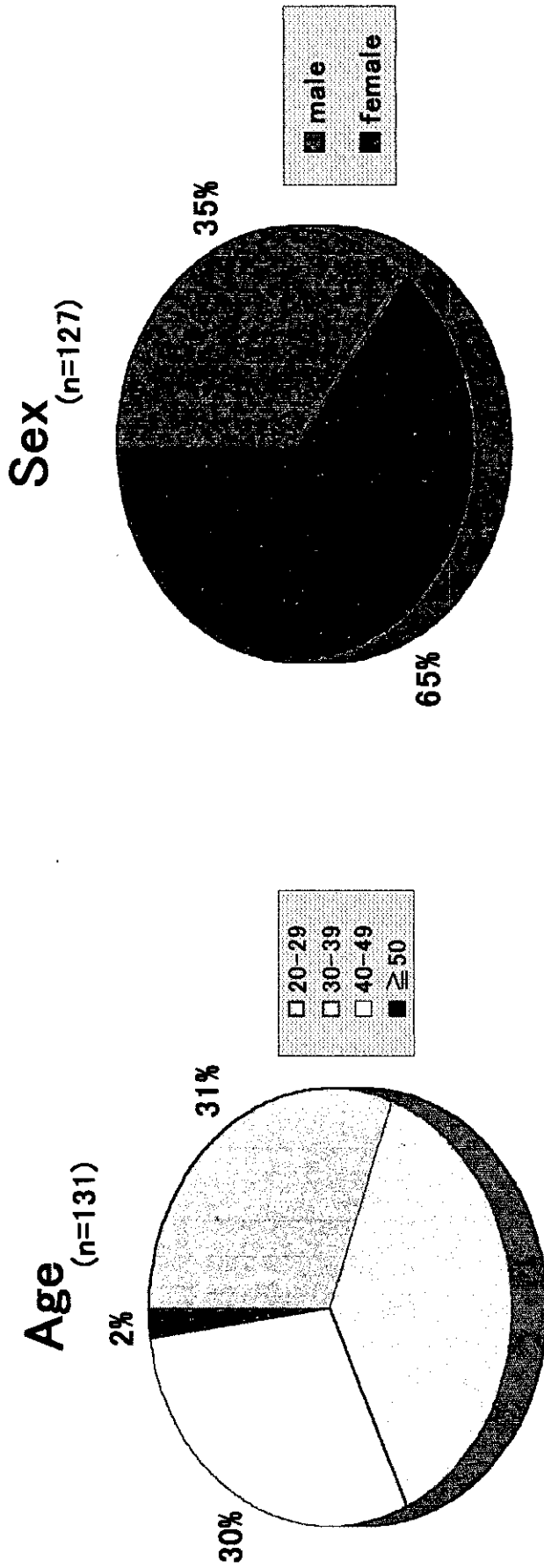
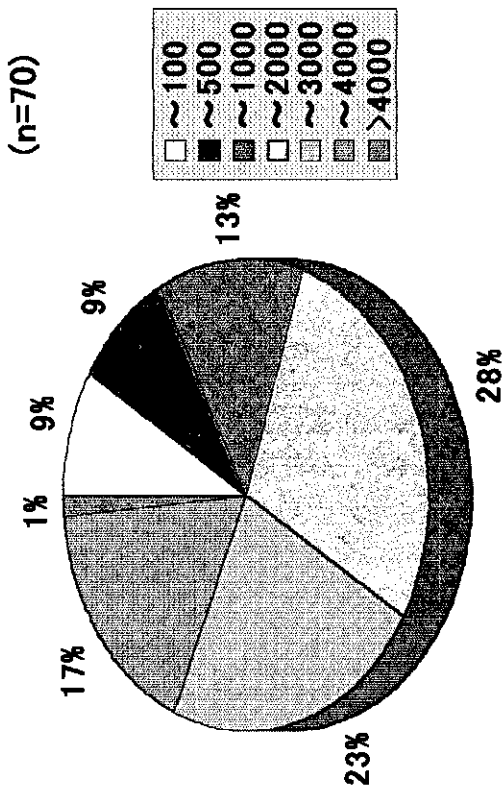


Background of Hospital Pharmacists

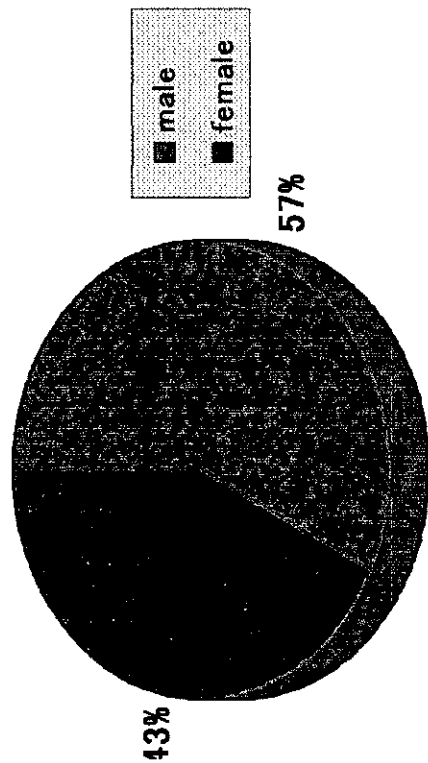


Background of Community Pharmacists

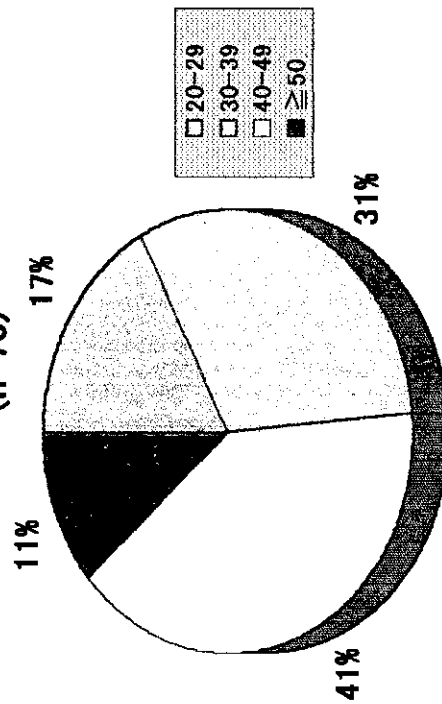
Number of prescription/month (n=70)



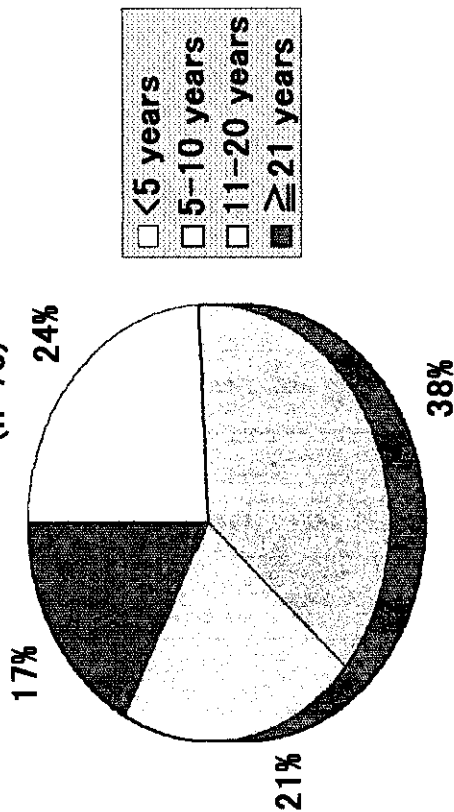
Sex (n=70)



Age (n=70)



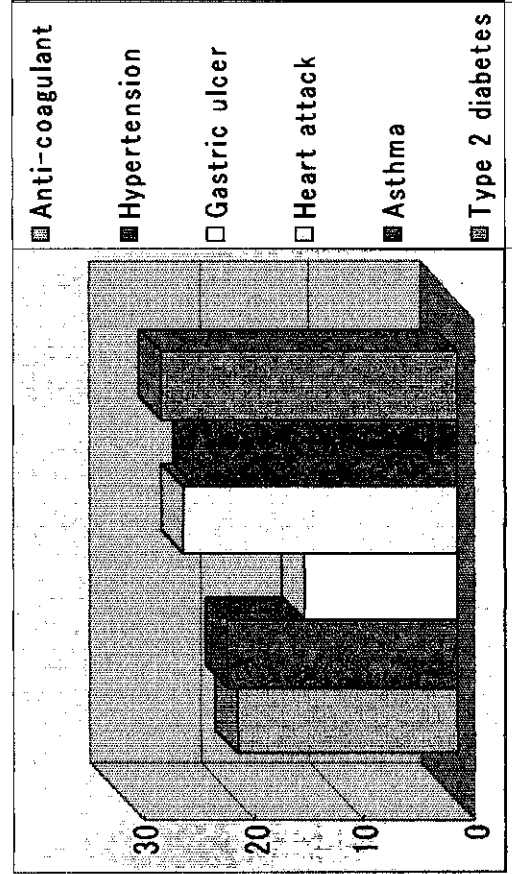
Experience (n=70)



Result 1

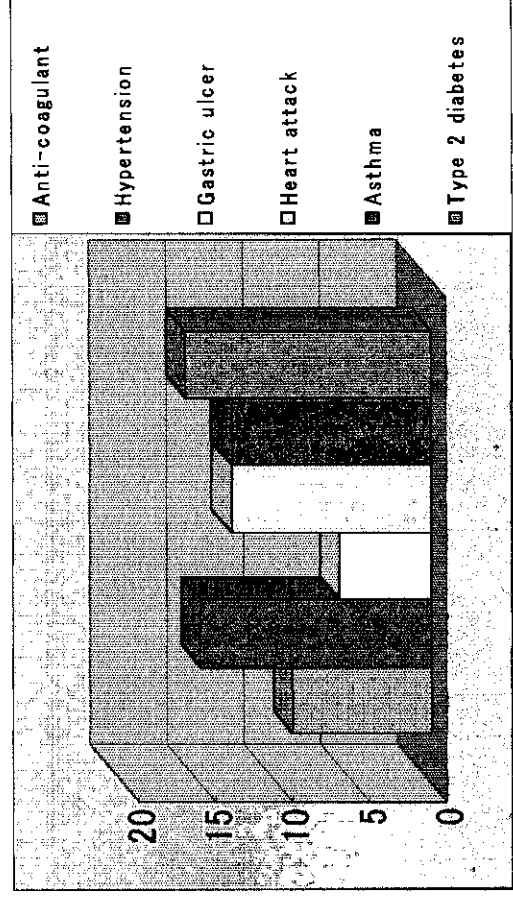
Hospital Pharmacy

| Target disease | Number of responses (%) |
|------------------------|-------------------------|
| Anti-coagulant therapy | 20 (15.3) |
| Hypertension | 21 (16.0) |
| Gastric ulcer | 14 (10.7) |
| Heart attack | 25 (19.1) |
| Asthma | 24 (18.3) |
| Type 2 diabetes | 27 (20.6) |
| Total | 131 |



Community Pharmacy

| Target disease | Number of responses (%) |
|------------------------|-------------------------|
| Anti-coagulant therapy | 9 (12.5) |
| Hypertension | 15 (20.8) |
| Gastric ulcer | 6 (8.3) |
| Heart attack | 13 (18.1) |
| Asthma | 13 (18.1) |
| Type 2 diabetes | 16 (22.2) |
| Total | 72 |



Case Chart

Diabetes

Case:
56Y, Male, Ht: 165cm, Wt: 73kg
Diagnosis name:
Type 2 diabetes
History of The Present Illness:
1998 ~ Thirst, 多飲 Polyuria,
General fatigue
2000.2.1 Hypoglycemia, FBS: 200
Hospitalized for a purpose by diabetes
control and education.

Vital Signs:
Blood pressure: 150/90, Pulse: 98

Complication:
Diabetic retinopathy

Allergies/sensitivities:
None

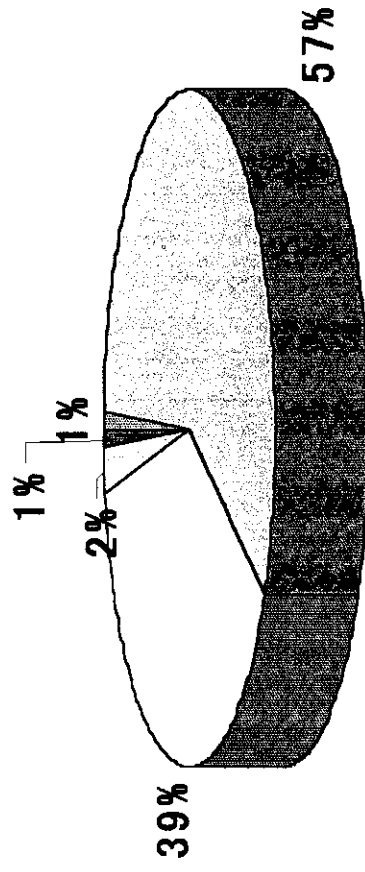
Habit:
Alcohol: Beer 1000ml/day
Tobacco: 20/day

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 14 | 19 | 28 |
|---|--|------|---|---|------|---|---|------|---|------|----|----|------|------|
| Glibenclamide 2.5mg | | | | | | | | | | | | | | |
| Veglibose 0.2mg | | | | | | | | | | | | | | |
| | 2 | 1.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 2 | 2 | 3 | | | | | | | | | | | |
| Urine sugar | (+) | | | | | | | | | | | | | |
| Urine urobilinogen | (-) | | | | | | | | | | | | | |
| FES (mg/dl) | 200 | 180 | | | 180 | | | 150 | | 140 | | | 120 | 110 |
| HbA1c (%) | 10.5 | | | | | | | | | 10.0 | | | | 9.5 |
| WBC (/mm ³) | 8000 | 8300 | | | 8300 | | | 8100 | | 8000 | | | 8100 | 8200 |
| REC (10 ⁴ /mm ³) | 480 | 480 | | | 480 | | | 470 | | 482 | | | 485 | 480 |
| PLT (10 ⁴ /mm ³) | 25 | 25 | | | 25 | | | 24 | | 25 | | | 25 | 25 |
| TC | 250 | 230 | | | 230 | | | 220 | | 220 | | | 200 | 180 |
| HDL | 49 | 48 | | | 48 | | | 45 | | 45 | | | 46 | 45 |
| TG | 180 | 176 | | | 176 | | | 170 | | 161 | | | 156 | 153 |
| FFA | 798 | 780 | | | 780 | | | 795 | | 778 | | | 770 | 765 |
| Urinary ketone body | (-) | | | | | | | | | | | | | |
| Ac/Ac | 50 | | | | | | | | | | | | | |
| GGT | 11 | 12 | | | 12 | | | 11 | | 11 | | | 10 | 12 |
| GPT | 9 | 9 | | | 9 | | | 9 | | 9 | | | 10 | 9 |
| ALP | 263 | 258 | | | 258 | | | 250 | | 245 | | | 246 | 240 |
| BUN | 12 | 11 | | | 11 | | | 10 | | 11 | | | 11 | 10 |
| Na (mEq/l) | 138 | 139 | | | 139 | | | 139 | | 137 | | | 138 | 136 |
| K (mEq/l) | 4.3 | 4.1 | | | 4.1 | | | 5.2 | | 4.8 | | | 4.9 | 4.8 |
| UA (mg/dl) | 5.0 | 5.0 | | | 5.0 | | | 4.9 | | 5.0 | | | 5.0 | 5.1 |
| Cr | 0.6 | 0.6 | | | 0.6 | | | 0.7 | | 0.6 | | | 0.5 | 0.6 |
| Essential drugs: | Pharmaceutical Care Plan (Hospital pharmacy) | | | | | | | | | | | | | |
| Glibenclamide | 1. Degree of obesity of a patient | | | | | | | | | | | | | |
| Veglibose | 2. What is 75g CGIT? | | | | | | | | | | | | | |
| | 3. What is FES? | | | | | | | | | | | | | |
| | 4. Dietetic therapy | | | | | | | | | | | | | |
| | 5. Kinesitherapy | | | | | | | | | | | | | |
| | 6. Clinical laboratory data to be necessary for Pharmaceutical Care | | | | | | | | | | | | | |
| | 7. A standard of treatment by sulfonylurea | | | | | | | | | | | | | |
| | 8. The point of pharmaceutical care by sulfonylurea | | | | | | | | | | | | | |
| | 9. Attention for a low/blood sugar symptom by sulfonylurea | | | | | | | | | | | | | |
| | 10. Drug interaction | | | | | | | | | | | | | |
| | 11. The point of pharmaceutical care by α -glucosidase inhibitor | | | | | | | | | | | | | |
| | 12. Attention for a low/blood sugar symptom by α -glucosidase inhibitor | | | | | | | | | | | | | |
| | 13. The point of pharmaceutical care by type 2 diabetes | | | | | | | | | | | | | |
| | Pharmaceutical Care Plan (Community pharmacy) | | | | | | | | | | | | | |
| | 14. Compliance check | | | | | | | | | | | | | |
| | 8/11. The point of pharmaceutical care by type 2 diabetes | | | | | | | | | | | | | |
| | 15. Should a day receiving endoscopy swallow up medicine? | | | | | | | | | | | | | |
| Extraction of problems: | 1. Understanding of medical therapy | | | | | | | | | | | | | |
| | 2. Notice diabetes medicine and a matter in other medicine using together | | | | | | | | | | | | | |
| | 3. The inspection item to be noticed | | | | | | | | | | | | | |
| | 4. The drug history before the admission | | | | | | | | | | | | | |
| | 5. Side effect | | | | | | | | | | | | | |
| | 6. Compliance | | | | | | | | | | | | | |

Result 2 : How do you evaluate this sample for deepening the understanding of the disease ?

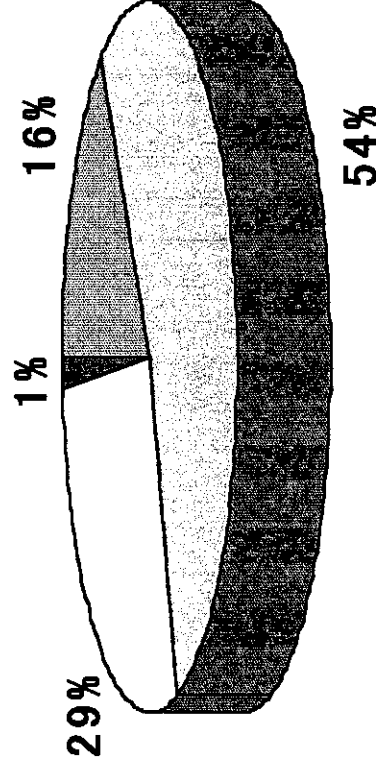
Hospital Pharmacy

| | Number of responses (%) |
|------------------|-------------------------|
| Very good sample | 1 (0.8) |
| Good sample | 79 (57.1) |
| Neither | 49 (38.9) |
| Bad sample | 3 (2.4) |
| Very bad sample | 1 (0.8) |
| Total | 126 |



Community Pharmacy

| | Number of responses (%) |
|------------------|-------------------------|
| Very good sample | 11 (15.7) |
| Good sample | 38 (54.3) |
| Neither | 20 (28.6) |
| Bad sample | 0 (0.0) |
| Very bad sample | 1 (1.4) |
| Total | 70 |



Pharmaceutical Care Plan

Hospital pharmacy

1. Degree of obesity of a patient
2. What is 75g OGTT?
3. What is FBS?
4. Dietetic therapy
5. Kinesitherapy
6. Clinical laboratory data to be necessary for Pharmaceutical Care
7. A standard of treatment by sulfonylurea
8. The point of pharmaceutical care by sulfonylurea
9. Attention for a low blood sugar symptom by sulfonylurea
10. Drug interaction
11. The point of pharmaceutical care by a-glucosidase inhibitor
12. Attention for a low blood sugar symptom by a-glucosidase inhibitor
13. The point of pharmaceutical care by type 2 diabetes

Community pharmacy

14. Compliance check
- 8/11. The point of pharmaceutical care by type 2 diabetes
15. Should a day receiving endoscopy swallow up medicine?

1. Degree of obesity of a patient

- A judgment method of obesity from a Body Mass Index

Body Mass Index : $BMI = Wt. (kg)/Ht.^2 (m^2)$

A judgment of obesity :
thinner < 20
 $20 \leq$ normal < 24
 $24 \leq$ excess weight < 26.4
 $26.4 \leq$ obesity

A case of this time, Ht. 165cm, Wt. 75kg.

$$BMI = 75/1.65^2 = 27.54 = \text{obesity}$$

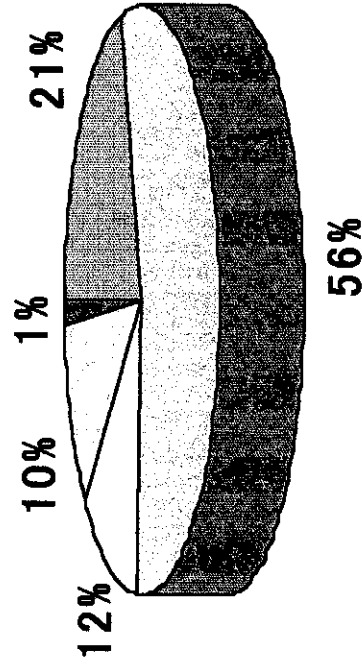
- A method to calculate standard weight : $BMI = 22$
Standard weight (kg) = $Ht.^2 (m^2) \times 22$
= $1.65^2 \times 22$
= 59.895

A case of this time, Standard weight of this patient is 60kg.
This patient is obesity.

Result 3 : Was this pharmaceutical care plan easy to understand?

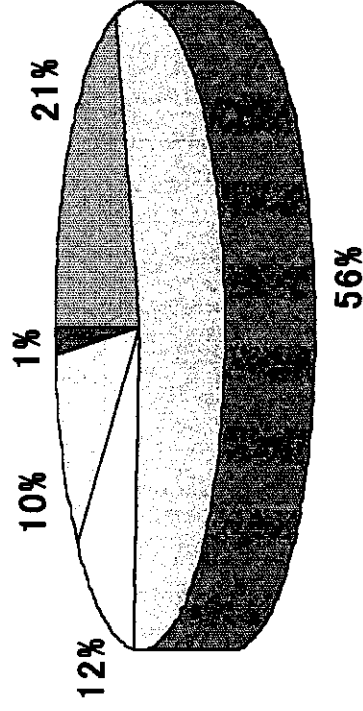
Hospital Pharmacy

| | Number of responses (%) |
|--------------|-------------------------|
| Very good | 24 (18.5) |
| Good | 79 (60.8) |
| Neither | 23 (17.7) |
| No good | 3 (2.3) |
| Very bad | 1 (0.8) |
| Total | 130 |



Community Pharmacy

| | Number of responses (%) |
|--------------|-------------------------|
| Very good | 14 (20.6) |
| Good | 38 (55.9) |
| Neither | 8 (11.8) |
| No good | 7 (10.3) |
| Very bad | 1 (1.5) |
| Total | 68 |

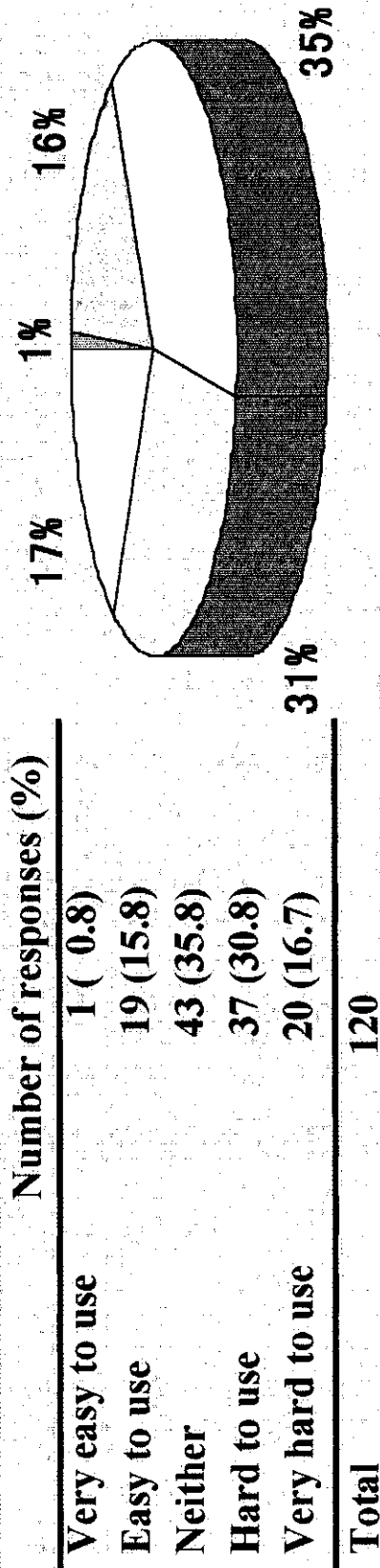


Essential Drug Check List — Type 2 Diabetes

| Check Item | Timing | ex. |
|---------------------------|--------------------------|------|
| Clinical Data | Admission, Weekly | |
| FBS | | 200 |
| HbA1c | | 10.5 |
| GA | | 13.5 |
| CPR | | 1.1 |
| TC | | 250 |
| HDL | | 49 |
| TG | | 180 |
| GOT | | 11 |
| GPT | | 9 |
| AL-P | | 263 |
| Medication Prescription | Admission | None |
| O.T.C. | | None |
| Health Foods | Admission | V |
| Foods | Admission | V |
| Hab. | Admission | V |
| Tobacco | | V |
| Al | | V |
| Others | | V |
| Allergies & Sensitivities | Admission | V |
| Pharmaceutical Care | Start, Weekly, Discharge | V |
| Dr | | e |
| Use | | |
| Adverse Reactions | | |
| Hypoglycemia | Start, Weekly, Discharge | V |
| Drug Interactions | Start, Weekly, Discharge | |
| Patient Information | | |
| Have a checkup | Discharge | |
| attention the other | | |
| department | | |
| When forgot medicine | Discharge | |

Result 4 : Was the check sheet useful ?

(The question only to the hospital pharmacy)

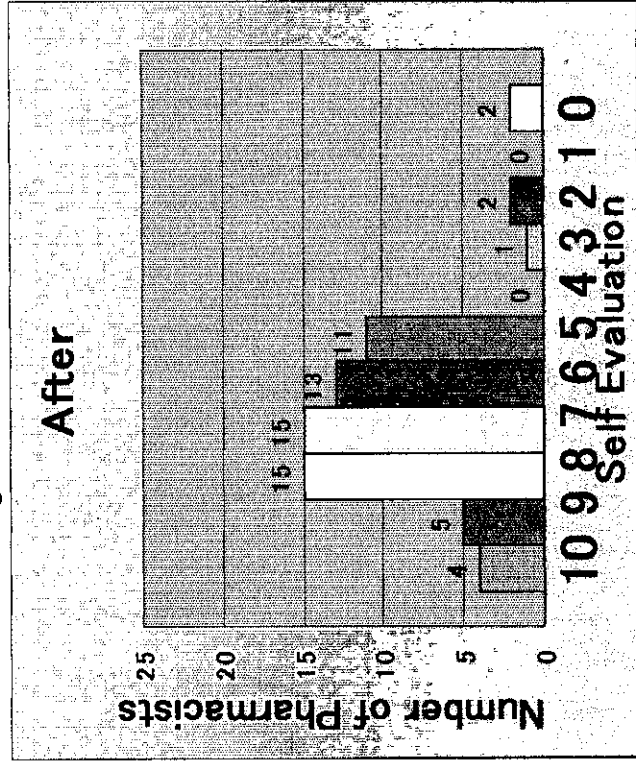
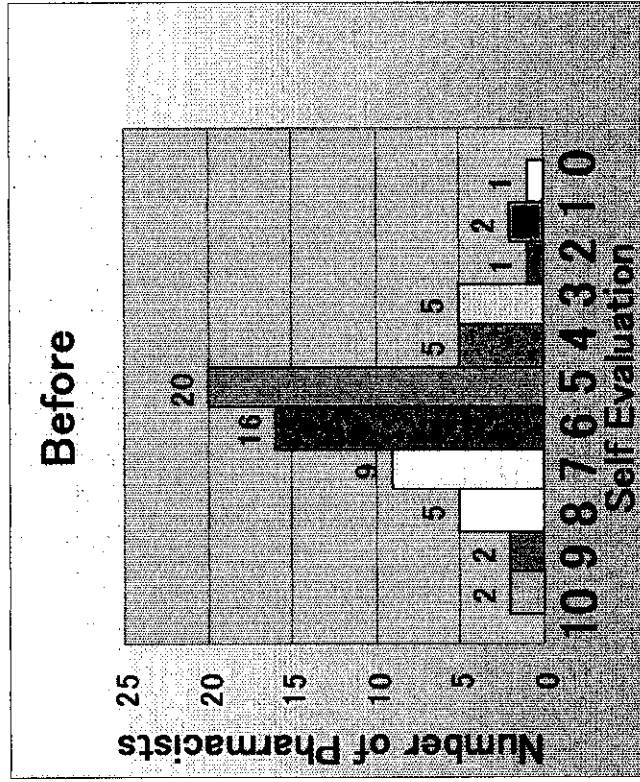


| Merit | Number of responses (%) (n=111) |
|--|---------------------------------|
| Complete assessment was attained | 75 (67.6) |
| All the patients obtained equal level of care | 40 (36.0) |
| Able to grasp movement of clinical data | 60 (54.1) |
| Understood the clinical situation of the patients better | 18 (16.2) |
| Others | 1 (0.9) |
| | Multiple reply |

| Demerit | Number of responses (%) (n=120) |
|-----------------------|---------------------------------|
| Complicatedness | 36 (30.0) |
| Filling up takes time | 61 (50.8) |
| Was not helpful | 23 (19.2) |
| Hard to use the table | 67 (55.8) |
| Others | 10 (8.3) |
| | Multiple reply |

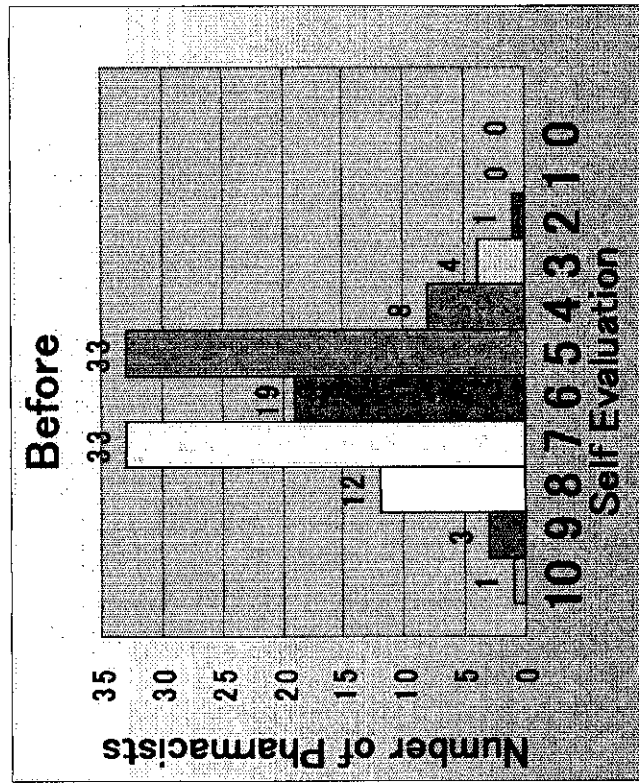
Result 5: Comparison of self evaluation before and after using the training institutional materials.

Community Pharmacy

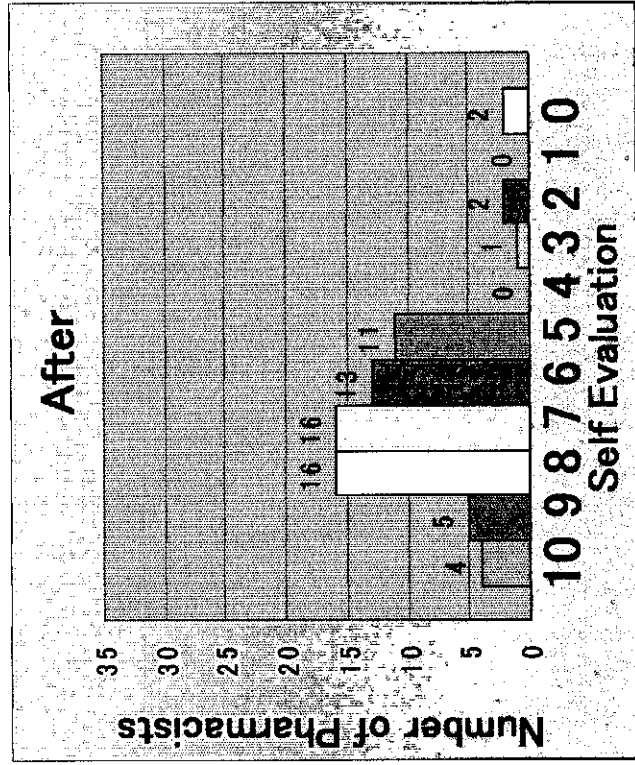


Result 6: Comparison of self evaluation before and after using the training materials.

Hospital Pharmacy



Total Point : 689



Total Point : 735 (P<0.01)

Discussion

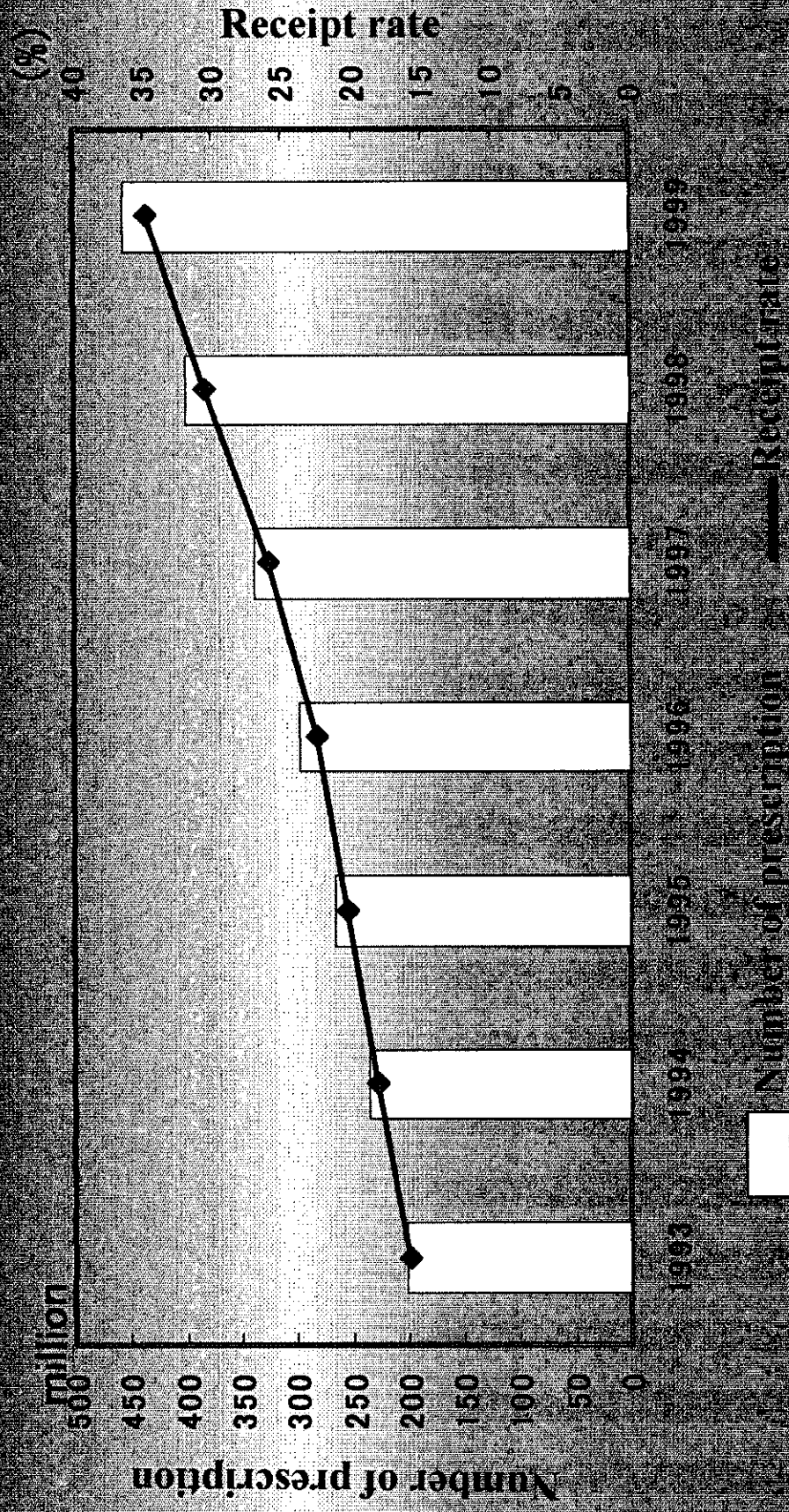
- We made a hypothetical patient from our experience of cases. Since our purpose is to educate community and hospital pharmacists, we could not include lots of contents.
- 75% of participants were satisfied with the pharmaceutical care plan. They expressed the intention to use it for instruction of students and trainees. The materials on other diseases are requested.
- The check sheet was useful for standardization of pharmaceutical care. But, it seems too complicated to use. We need to develop easy-to-use check sheets.
- Six instructional materials are useful for community and hospital pharmacists.

Conclusion

Respondents overall indicated the great utility of the materials in monitoring patients' drug therapy and interpreting laboratory test results. In Japan, where separation of pharmacy and hospital is in progress, cooperation of community pharmacists and hospital pharmacists may be needed.

Reference

Number of prescription and receipt rate for community pharmacy in Japan



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