| **Table 1:** Examples of program component details |
| --- |
| **Week/Topic** | **Concepts/theoretical-basis** | **Activities** | **Duration****(minutes)** |
| **Phrase 1: weight control (12 weeks)** |
| 1 / overweight and obesity | - autonomous motivation (SDT)- self-efficacy (SCT)- self-regulation (SCT)- observational learning (SCT)- education | - Introduction to weight reduction program- Group relationship activities-Teaching by using symbolic model, students brain storming and set individual weight goal- Students were assigned for weekly weight recording, long 1 month for 6 months and offered their interesting exercise and PA | 60 |
| PA 3 days a week |  | - Students did exercise and PA by choosing from their offering | 30 |
| 2 / good shape by exercise: part 1 | - autonomous motivation (SDT)- self-efficacy (SCT)- self-regulation (SCT)- education | - Teaching by using question emotional arousal and slide presentation- Students were assigned for calculated their own BMI and PA daily self-record, long 1 month for 6 months and offered their interesting exercise and PA for 2nd to 6th week | 50 |
| PA 3 days a week |  | - Students did exercise and PA by choosing from their offering | 30 |
| 3 / Healthy diet | - autonomous motivation (SDT)- self-efficacy (SCT)- self-regulation (SCT)- education | - Teaching by using question emotional arousal and slide presentation- Students were assigned for dietary consuming daily self-record, long 1 month for 6 months | 40 |
| PA 3 days a week |  | - Students did exercise and PA by choosing from their offering | 30 |
| **Phrase 2: Follow-up (12 weeks)** |
| 13-15, 17-19 and 21-24 / PA 3 days a week | - autonomous motivation (SDT)- self-efficacy (SCT)- self-regulation (SCT) | - Students did exercise and by PA by own self or their group | 30 |
| 16, 20 and 24 /follow-up | - autonomous motivation (SDT)- self-efficacy (SCT)- self-regulation (SCT) | - Follow-up (weight control, PA and dietary consuming behavior modification, stress management and students daily book self-record of dietary consuming and PA) was using individual and group meetings, supporting, monitoring, keeping a good communication and counseling  | 20-30 |
| Note. All topics taught by train teacher. PA 3 days a week was on Monday, Wednesday and Friday. |

|  |
| --- |
| **Table 2:** Participants’ baseline characteristics (n=304) |
| **Characteristics** | **Intervention group (n=154)** |  | **Control group (n=150)** |  | ***p*** |
|  | n | (%) |  | n | (%) |  |  |
| age (years) |  |  |  |  |  |  |  |
| 12 -13 | 42 | (27.3) |  | 47 | (31.3) |  | .657b |
| 14-15 | 50 | (32.5) |  | 46 | (30.7) |  |  |
| 16-17 | 56 | (36.3) |  | 48 | (32.0) |  |  |
| 18-19 | 6 |  (3.9) |  | 9 |  (6.0) |  |  |
| mean (SD) | 14.9 (1.70) |  | 14.7 (1.77) |  | .361a |
| Gender |  |  |  |  |  |  |  |
| male | 81 | (52.6) |  | 79 | (52.7) |  | .990b |
|  female | 73 | (47.4) |  | 71 | (47.3) |  |  |
| Grade |  |  |  |  |  |  |  |
| grade 7  | 23 | (15.0) |  | 24 | (16.0) |  | .975b |
| grade 8 | 34 | (22.1) |  | 35 | (23.3) |  |  |
| grade 9 | 21 | (13.6) |  | 21 | (14.0) |  |  |
| grade 10 | 30 | (19.5) |  | 24 | (16.0) |  |  |
| grade 11 | 29 | (18.8) |  | 27 | (18.0) |  |  |
| grade 12 | 17 | (11.0) |  | 19 | (12.7) |  |  |
| Daily school pocket money (Baht/day) |  |  |  |  |  |  |  |
| 0- 50 | 145 | (94.2) |  | 146 | (97.3) |  | .257b |
| 51-100 | 9 |  (5.8) |  | 4 | (2.7) |  |  |
| mean (SD) | 39.2 (14.2) |  | 36.2 (9.81) |  | .035\*a |
| Note. a Comparison mean difference by using independent *t*-test; b Comparison group variables by using chi-square test. |

|  |
| --- |
| **Table 3:** BMI change before and after program for the intervention and the control groups (n=304) |
|  | **Intervention group****(n=154)** | **Control group****(n=150)** | **Mean difference**a |  |  | **Adjusted mean** |  |  |
|  | **Mean**  | **(SD)** | **Mean** | **(SD)** |  | **95% CI** | ***p*** | **difference**b | **95% CI** | ***p*** |
| BMI (kg/m2) |  |  |  |  |  |  |  |  |  |  |
|  week 0 | 28.0  | (3.60) | 28.8  | (4.11) |  |  |  |  |  |  |
|  week 12 | 27.7 | (3.67) | 28.2 | (4.18) | -0.5 | (-1.4, 0.4) | .257 | 0.4 | (0.1, 0.7) | .017\* |
|  week 24 | 27.4 | (3.72) | 27.9 | (4.15) | -0.5 | (-1.4, 0.4) | .273 | 0.3 | (-0.1, 0.7) | .127 |
| Note. Comparison of mean weight reduction at weeks 12 and 24 by using independent *t*-test.a Comparison mean difference of weight reduction (the intervention – control groups) at weeks 12 and 24 by using simple linear regression;b Adjusted parents’ physical characteristics, daily school pocket money, PA behaviors, eating behavior, triceps skinfold thickness, subscapular skinfold thickness and BMI at baseline (week 0) by using multiple linear regression.95% CI = 95% confidence interval. |

|  |
| --- |
| **Table 4:** Scores of PA motivation before and after program of the intervention and the control groups (n=304) |
| **Difference scores of PA motivation** | **Intervention group** **(n=154)** | **Control group****(n=150)** | **Mean difference**a |  |  | **Adjusted mean** |  |  |
|  | **Mean**  | **(SD)** | **Mean** | **(SD)** |  | **95% CI** | ***p*** | **difference**b | **95% CI** | ***p*** |
| Amotivation |  |  |  |  |  |  |  |  |  |  |
| week 0 | 1.5 | (0.88) | 1.4 | (0.89) |  |  |  |  |  |  |
| week 12 | 1.8 | (0.88) | 1.4 | (0.89) | 0.4 | (0.2, 0.6) | <.001\* | 0.4 | (0.2, 0.5) | <.001\* |
| week 24 | 1.8 | (0.79) | 1.6 | (0.92) | 0.2 | (0.1, 0.4) | .013\* | 0.2 | (0.0, 0.4) | .021\* |
| External regulation |  |  |  |  |  |  |  |  |  |  |
| week 0 | 1.9 | (0.82) | 1.8 | (0.85) |  |  |  |  |  |  |
| week 12 | 1.9 | (0.85) | 1.7 | (0.86) | 0.1 | (-0.1, 0.3) | .181 | 0.1 | (-0.1, 0.3) | .345 |
| week 24 | 1.8 | (0.71) | 1.8 | (0.81) | 0 | (-0.2, 0.1) | .670 | -0.1 | (-0.2, 0.1) | .452 |
| Introjected regulation |  |  |  |  |  |  |  |  |  |  |
| week 0 | 1.9 | (0.89) | 1.9 | (0.79) |  |  |  |  |  |  |
| week 12 | 1.9 | (0.86) | 1.9 | (0.76) | 0 | (-0.1, 0.2) | .665 | 0 | (-0.2, 0.2) | .977 |
| week 24 | 1.9 | (0.81) | 1.9 | (0.80) | 0 | (-0.1, 0.2) | .547 | 0 | (-0.1, 0.2) | .699 |
| Identified regulation |  |  |  |  |  |  |  |  |  |  |
| week 0 | 2.5 | (0.78) | 2.6 | (0.72) |  |  |  |  |  |  |
| week 12 | 2.4 | (0.67) | 2.4 | (0.67) | 0 | (-0.1, 0.2) | .880 | 0 | (-0.1, 0.2) | .564 |
| week 24 | 2.4 | (0.64) | 2.5 | (0.63) | -0.1 | (-0.2, 0.1) | .342 | 0 | (-0.2, 0.1) | .528 |
| Intrinsic regulation |  |  |  |  |  |  |  |  |  |  |
| week 0 | 2.6 | (0.83) | 2.7 | (0.91) |  |  |  |  |  |  |
| week 12 | 2.6 | (0.72) | 2.6 | (0.85) | 0 | (-0.2, 0.2) | .805 | 0.1 | (-0.1, 0.2) | .488 |
| week 24 | 2.5 | (0.74) | 2.6 | (0.73) | -0.1 | (-0.3, 0.0) | .107 | -0.1 | (-0.3, 0.1) | .216 |
| RAI |  |  |  |  |  |  |  |  |  |  |
| week 0 | 2.7 | (5.19) | 3.9 | (5.55) |  |  |  |  |  |  |
| week 12 | 1.5 | (5.16) | 3.0 | (5.96) | -1.5 | (-2.8, -0.3) | .017\* | -1.1 | (-2.2, 0.1) | .071 |
| week 24 | 1.3 | (4.96) | 2.5 | (5.75) | -1.2 | (-2.4, 0.1) | .069 | -0.8 | (-2.0, 0.3) | .133 |
| Note. Comparison of mean changed in PA motivation at weeks 12 and 24 by using independent *t*-test. a Comparison mean difference of PA motivation change (the intervention – control groups) at weeks 12 - and 24 by using simple linear regression; b Adjusted for knowledge, school level, Identified regulation, Intrinsic regulation, RAI and that motivation subscales at baseline (week 0) by using multiple linear regression.95% CI = 95% confidence interval. |

| **Table 5:** Scores of dietary intakes motivation before and after the program for intervention and control groups (n=304) |
| --- |
| **Difference scores of dietary intakes motivation** | **Intervention group** **(n=154)** | **Control group****(n=150)** | **Mean difference**a |  |  | **Adjusted mean** |  |  |
|  | **Mean**  | **(SD)** | **Mean** | **(SD)** |  | **95% CI** | ***p*** | **difference**b | **95% CI** | ***p*** |
| Amotivation |  |  |  |  |  |  |  |  |  |  |
| week 0 | 3.4 | (1.20) | 3.5 | (1.25) |  |  |  |  |  |  |
| week 12 | 3.7 | (1.14) | 3.3 | (1.14) | 0.4 | (0.2, 0.7) | .001\* | 0.4 | (0.1, 0.6) | .004\* |
| week 24 | 3.6 | (1.14) | 3.4 | (1.18) | 0.2 | (0.0, 0.5) | .074 | 0.3 | (0.0, 0.5) | .046\* |
| Externally controlled motivation |  |  |  |  |  |  |  |  |  |  |
| week 0 | 3.9 | (1.08) | 3.8 | (1.11) |  |  |  |  |  |  |
| week 12 | 3.9 | (1.09) | 3.6 | (1.03) | 0.3 | (0.1, 0.5) | .015\* | 0.3 | (0.1, 0.5) | .010\* |
| week 24 | 3.9 | (0.99) | 3.6 | (1.02) | 0.2 | (0.0, 0.6) | .052 | 0.3 | (0.0, 0.5) | .025\* |
| Autonomous motivation |  |  |  |  |  |  |  |  |  |  |
| week 0 | 4.7 | (1.91) | 4.6 | (1.30) |  |  |  |  |  |  |
| week 12 | 4.4 | (1.13) | 4.5 | (1.12) | -0.1 | (-0.3, 0.3) | .524 | 0 | (-0.3, 0.2) | .713 |
| week 24 | 4.4 | (1.10) | 4.4 | (1.16) | 0 | (-0.3, 0.2) | .866 | 0 | (-0.3, 0.2) | .947 |
| RAMI |  |  |  |  |  |  |  |  |  |  |
| week 0 | 0.8 | (1.28) | 0.8 | (1.24) |  |  |  |  |  |  |
| week 12 | 0.5 | (1.04) | 0.9 | (1.22) | -0.4 | (-0.6, -0.1) | .004\* | -0.4 | (-0.6, -0.1) | .003\* |
| week 24 | 0.5 | (1.16) | 0.8 | (1.28) | -0.3 | (-0.5, 0.0) | .063 | -0.3 | (-0.5, 0.0) | .046\* |
| Note. Comparison of mean dietary intake motivation change at weeks 12 and 24 by using independent *t*-test.a Comparison mean difference of dietary intake motivation at weeks 12 and 24 by using simple linear regression;b Adjusted for knowledge, school level, Identified regulation, Intrinsic regulation, RAI and that motivation subscales at baseline (week 0) by using multiple linear regression.95% CI = 95% confidence interval. |