



Figure 2 shows the result of the association analysis of the top 20 words among the keywords with a high frequency. It is higher the association, the closer the distance and the thicker the connection line.

The results of the association analysis are as follows:

- (Fukushima) **accident**, the importance of the **safety** issue was emphasized. In this regard it, **international conferences** on nuclear **security** is also highly association.
- **Safeguards activities** and **cooperation** on nuclear **materials** have been highly associated with the **iran** nuclear issue.
- A **cancer** treatment **programme** using nuclear, and **technology development** are also related.
- There is associated with the **new** and **help**.

### 3.2 Analysis results of policy change

In order to confirm policy changes, the statements that bound in a year are analyzed. 2009 and 2017 were included in 2010 and 2016 respectively, due to their small volume. The keywords analysis and association analysis results for each year were not significantly different from the results of 3.1 Analysis results of policy basis. However, the ranking of the keywords in Table I shows significant results.

Table I. The rank for keywords by year

|    | 2010          | 2011          | 2012          | 2013          | 2014          | 2015          | 2016          |
|----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1  | security      | safety        | security      | security      | iran          | iran          | cancer        |
| 2  | cancer        | accident      | safety        | safety        | safeguards    | safety        | security      |
| 3  | safety        | international | safeguards    | conference    | security      | cancer        | safety        |
| 4  | energy        | safeguards    | international | safeguards    | important     | development   | development   |
| 5  | safeguards    | fukushima     | conference    | international | material      | important     | international |
| 6  | developing    | programme     | iran          | important     | safety        | safeguards    | technology    |
| 7  | help          | security      | important     | new           | international | help          | help          |
| 8  | activities    | japan         | accident      | programme     | programme     | international | important     |
| 9  | new           | daiichi       | fukushima     | material      | technology    | technology    | new           |
| 10 | international | material      | material      | accident      | cooperation   | programme     | use           |

Since the Fukushima accident in Japan in 2011, nuclear safety and security policy has been given priority. And from 2014, it can be interpreted that the policy of negotiations with Iran and the related safeguards activities has priority. From 2016 onwards, new technology development policy such as cancer treatment using nuclear energy seems to be given priority.

### 3.3 Verification of results

The analysis results were compared with the IAEA mid-term strategy 2012-2017 to verification, and it is confirmed both are matched mostly. The following are the six strategic objectives of the mid-term strategy 2012-2017.<sup>[4]</sup>

- A. Facilitating access to nuclear power
- B. Strengthening promotion of nuclear science, technology and applications
- C. Improving nuclear safety and security

- D. Providing effective technical cooperation
- E. Strengthening the effectiveness and improving the efficiency of the Agency's safeguards and other verification activities
- F. Providing efficient, innovative management and strategic planning

## 4. Conclusions

During Yukiya Amano tenure, the IAEA policy is largely confirmed in two ways. First, it is the nuclear non-proliferation and security policy represented by Safety, Security and Safeguards. Second is the new technology development policy.

The major policy related to nuclear nonproliferation and security is analyzed as international cooperation in the fields of nuclear safety and security since the Fukushima accident, and safeguards activities related to the Iran nuclear program. The new technology development policy is the cancer treatment programs using nuclear technology and development of technology for solve to global issues such as water, foods, environment and etc.

## REFERENCES

- [1] Amano IAEA director general is expected to be re-elected..., Kyodo News (Internet & Korean ver.), Jan.4, 2017.
- [2] Wikipedia, *Big Data*, ko.wikipedia.org
- [3] Wikipedia, *R programming language*, ko.wikipedia.org
- [4] The Mid-Term Strategy 2012-2017, IAEA