

Takhrij and Syarah Hadith of Chemistry: The Power of Iron Compounds Believed Since the Prophet's Time

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Abstract The purpose of this study was to discuss the hadith of the Prophet concerning the power of iron. This research method is qualitative through takhrij approach and hadith syarah with chemical analysis. The results and discussion of this research is iron is famous for its strength since the time of the Prophet, to be used as a war equipment and evidenced by scientific reviews of the physical and chemical properties of iron. Not only that, iron also at this time has the benefit to be used as household appliances, construction equipment, to military transportation equipment. The conclusion of this study is takhrij and syarah hadith about the strength and usefulness of iron has been used since the time of the Prophet.

Keywords: Chemistry, Hadith, Iron, Syarah, Takhrij

Introduction

Iron is a metal that comes from iron ore (mine), iron in the periodic table has the symbol Fe with the Latin name Ferrum and atomic number 26 (Satria, 2015). Iron is very important for human life from time to time. Due to its strong and sturdy nature, iron is used as a material for simple tools, modern building construction, to military equipment and vehicles (Suhendar, 2011). Iron has also been used since the time of the Prophet to be used as war equipment in the Uhud war, namely armor or *dira`* clothes. The strength of iron is also stated in the Qur'an that "in iron there is great strength" (Sudiarti et al., 2018).

There is a hadith of the Prophet related to iron power in *Baitul Afkar Ad-Dauliah* Number 2223, the book of *Jihad*, the chapter on wearing armor:

قَدْ سَمَّاهُ أَنَّ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ ظَاهَرَ يَوْمَ أُحُدٍ بَيْنَ دِرْعَيْنِ أَوْ لَيْسَ دِرْعَيْنِ حَدَّثَنَا مُسَدَّدٌ حَدَّثَنَا سُفْيَانُ قَالَ حَدَّثَنَا أَبِي سَمِعْتُ يَزِيدَ بْنَ نَازِكٍ حَدَّثَنَا عَنْ رَجُلٍ خُصِيفَةَ يَذْكُرُ عَنِ السَّائِبِ بْنِ

Having told us Musaddad, told us Sufyan, he said, I heard Yazid bin Khushaifah, mentioning from As – Saib bin Yazid, from a man whom he mentioned by name, that Rasulullah ﷺ at the time of war Uhud appeared to be wearing two *dira`* clothes (armor), or wearing two armor (Abu Daud).

Based on the explanation above, a research formula was prepared, namely the formulation of the problem, research questions, and research objectives (Darmalaksana, 2020a). The formulation of this problem is that there is a hadith from the Prophet about the power of iron. The research question is how the hadith of the Prophet about the power of iron. The purpose of this research is to discuss the hadith of the Prophet Muhammad about the strength of iron.

Research methods

This research is qualitative in nature through literature and field studies (Darmalaksana, 2020b). While the methods applied are takhrij and syarah hadith (Soetari, 2015). The interpretation in this study used chemical analysis (Sudiarti et al., 2018).

In general, there are two stages of research on hadith, namely takhrij and syarah. Takhrij is the process of extracting a hadith from a hadith book to examine its validity, while syarah is an explanation of the hadith text with a certain analysis (Soetari, 2015). Chemistry itself, as a means of interpretation in this research, is one of the fields of science developed based on experiments that seek answers to the questions of what, why, and how natural phenomena, especially those related to composition, structure, transformation, dynamics, and energy. substances that involve reasoning and skills (Emda, 2017).

Results and Discussion

At first, a search was carried out through the hadith application regarding the keyword "armor" until a

hadith was found in the book Jihad Baitul Afkar Ad- Dauliah Number 2223, as previously disclosed.

Table 1. List of Rawi Sanad

No.	Rawi Sanad	Birth / Death		Country	Kunyah	Ulama's Comments		Circles
		B	D			-	+	
1	As Saa'ib bin Yazid bin Sa'id bin Tsumaamah bin Al - Aswad		91 H.	Madinah			Shahabat	Shahabat
2	Yazid bin 'Abdullah bin Khushaifah bin 'Abdullah bin Yazid			Madinah			- Tsiqah - Tsiqah - Tsiqah - Tsiqah Hujjah mentioned in 'ats tsiqaat - Tsabat worship expert - Tsiqah - Tsiqah nasik	Tabi'in ordinary people
3	Sufyan bin 'Uyainah bin Abi' Imran Maimun		198 H.	Kufah	Abu Muhammad		- Hafidz mutqin - Tsiqah tsabat in the hadith - Ahadul A'lam - Tsiqah Tsabat - Hafidz imam	Middle circle of tabi'ut Tabi'in
4	Musaddad bin Musrihad bin Musribal bin Mustawrid		228 H	Basrah	Abu Al - Hasan		- Shaduuq - Shaduuq - Tsiqah - Tsiqah - Tsiqah - mentioned in 'ats tsiqaat - Tsiqoh hafidz - Hafizh	Tabi'in ordinary people
5	Abu Daud	202 H.	275 H	Basrah				Mudawin

Table 1 is a list of the hadith narrators and sanad under study. Rawi is the narrator of hadith while sanad is the chain of narrators from companionship to mudawin, namely ulama's who record hadiths in the hadith book (Soetari, 1994). According to the science of hadith, the requirement for a hadith sahih is that the rawi must be positive according to the comments of the scholars. If

there is a comment from a scholar who gives a negative assessment to one of the narrators in the sanad lane, then the hadith is a hadith dhaif (Darmalaksana, 2020d). Sahih hadith are strong traditions while dhaif traditions are weak traditions (Soetari, 1994). Requirements for sahih hadith must also be continued. If the hadith sanad is broken, then

the hadith is a dhaif hadith. The proof of continuity is meeting between teacher and student. If there is no objective evidence, the meeting between teacher and student can be seen from birth and death. If there is no data on births and deaths, it is predicted that the average age of ulama's is around 70–90 years. The meeting of teachers and students can also be seen from the narrator's life journey. If the teacher and student are in the same place, it is predicted that the teacher and student will meet (Darmalaksana, 2020d).

The quality of this hadith is sahih. Because, from the side of the narrator, there were no comments from ulama's who gave negative assessments. Also from the sanad side, it is connected from shahabat to mudawin. Basically the science of hadith has another parameter in providing reinforcement to hadith. Among other things, hadiths are called Mutawatir in a very popular sense if the hadiths being researched are scattered in several hadith books (Soetari, 2015). The distribution of this hadith acts as syahid and mutabi. Syahid is another hadith of a kind whereas mutabi is another sanad (Darmalaksana, 2020d). The rest, hadith so far is the virtue of Islamic practice, so it can be argued even though its status is dhaif (Darmalaksana et al., 2017).

The ulama's have given syarah, namely an explanation of the content and meaning of the hadith (Darmalaksana, 2020c). According to the view of the ulama's, Abu Daud made a chapter title based on the hadith lafadz which describes the use of *dira'* (armor) during the Uhud war. The thing that causes *dira'* (armor) is that at the time of the Uhud war there were 700 soldiers in armor and 200 cavalry. They also brought 17 women, among them Hindun binti Utbah, wife of Abu Sufyan. Then Rasulullah SAW. came out with 1,000 men, 100 of whom were soldiers wearing armor and cavalry (Education, 2018).

This hadith can also be explained in terms of chemistry. The strength of iron has been proven by review and scientific studies, from the study of core chemistry, iron consists of natural isotopes (^{54}Fe , ^{56}Fe , ^{57}Fe , and ^{58}Fe) which as a whole contribute the average / relative weight of the iron atom (A_r) 55,845 g / mol. Of the four isotopes, ^{56}Fe is the most stable isotope and also the most stable nuclide in the universe (Suhendar, 2011). Why is it said to be the most stable?

Because iron has the smallest core mass per nucleon, namely the ^{56}Fe isotope as previously explained (Suhendar, 2016).

Under these conditions, iron has an adaptive FCC (Face Centered Cubic) structure in the presence of copper atoms to produce a very strong alloy of iron and copper at the end of cooling at room temperature and pressure. This is what causes Fe and Cu alloys to have high mechanical and thermal strength. It turns out that this extraordinary feature of iron must also be completely agreed upon because scientific findings in the field of geophysics unquestionably state that about 90% of the earth's core is iron, a little nickel and other elements. The earth's core consists of two parts, the inner and the outer. The inside contains solid iron and the outside contains molten iron. The influence of the iron content on the earth's core eventually led to the conclusion about the location of the great strength of iron. It turns out that this extraordinary feature of iron must also be completely agreed upon because scientific findings in the field of geophysics unquestionably state that about 90% of the earth's core is iron, a little nickel and other elements. The earth's core consists of two parts, the inner and the outer. The inside contains solid iron and the outside contains molten iron. The influence of the iron content on the earth's core eventually led to the conclusion of the location of iron's mighty strength. It turns out that this extraordinary feature of iron must also be completely agreed upon because scientific findings in the field of geophysics unquestionably state that about 90% of the earth's core is iron, a little nickel and other elements. The earth's core consists of two parts, the inner and the outer. The inside contains solid iron and the outside contains molten iron. The influence of the iron content on the earth's core eventually led to the conclusion about the location of the great strength of iron.

Not only that, the feature that can be viewed from the term iron power is from the fact that iron is the most contributing element to the entire earth mass, this causes iron to have a very large role in the earth's gravitational force. As a metal, let alone a transition metal group, iron actually plays the most important role for the survival of living things on earth. This is evidenced by the importance of iron in the transport of oxygen for cellular respiration in most living things on

earth. In carrying out its role as an oxygen carrier, iron is in the form of macromolecular compounds. For example, some enzymes and proteins which are important in biochemical processes are iron compounds. The most commonly known examples of iron compounds are those found in humans, namely hemoglobin. Therefore, iron has a very large role in the control of life in the hydrosphere which ultimately determines the history of living things on earth (Suhendar, 2011).

Conclusion

Iron has been recognized for its strength since the time of the Prophet. and it has also been mentioned in the hadith about the use of armor (dira' clothes) at war events, as well as mentioning the benefits of iron in life. Followed by a scientific review of the strength of iron, it can be ascertained that iron has strength, both from its physical properties and from its chemical properties. Currently the power of iron is used to make household appliances, construction tools, and even as a means of military transportation. Based on the hadith takhrij, the quality of this hadith is sahih because the traditions of the hadith are connected from shahabat to mudawin. This research is expected to have beneficial implications for the development of iron in the chemical field. This research has limitations, namely simple takhrij and syarah hadith, so that a more adequate follow – up research through chemistry is needed. This research recommends the development of iron through the chemical field beyond its effectiveness as a weapon of war and household equipment.

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